國立交通大學

外國語文學系外國文學與語言學碩士班

碩士論文

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Specifying Path in Mandarin Motion Events—

A Study of Route Markers

研 究 生: 蔡幸珊

指導教授: 劉美君 教授

中 華 民 國 一 〇 二 年 七 月

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研 究 生: 蔡幸珊　　Student: Hsin-Shan Tsai

指導教授: 劉美君　　Advisor: Meichun Liu

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學生：蔡幸珊　　指導教授：劉美君

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摘　要

本研究為進一步地了解移動事件中的路徑，深入探討中文裡經常使用的三個路徑標記「過」,「經」,「越」的語法和語意特徵，也藉由這些特徵來討論其語意和構詞之間的互動關係。Liu et al. (2012a) 提出了路線(Path)可再被細分為三個互相關聯的語意成分:路徑(Route),方向(Direction)和終點(Endpoint)，而本研究針對路徑(Route)做深入探討。如同下面例句所示，路徑(Route) 可以單純指出移動的軌道而不用說明路線的方向或是終點，而路徑標記則是藉由標示出一個中界點帶出這條軌道來表達位移的概念。

(1)　　**經**風暴，**過**黑夜，**越**洋海

這三個路徑標記帶有相同的標記功能且經常出現在以下句式中：

(2) a　**過/越/*經 < Route-NP**
過/越/*經 **[**邊界/Route-NP]了

b.　**過/越/經 < Route-NP < Motion Verb < Loc-NP**
過/越/經 **[**淡水河/Route-NP][到/Motion Verb][對岸/Loc-NP]

c.　**Verb < 過/越/經**
[飛/Verb]過/越/經公路

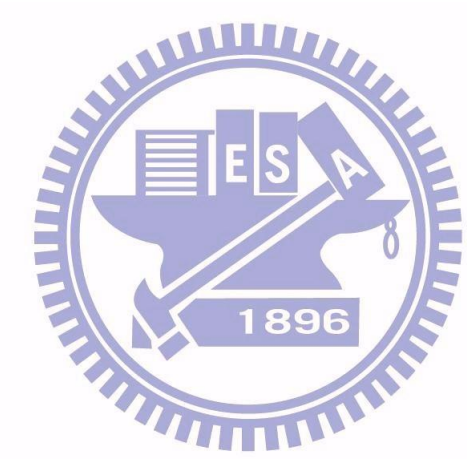
從這些句式當中，我們可以看出路徑標記有著不同的語法功能。句式一中的路徑標記可做為及物動詞使用，而在句式二裡，這三個路徑標記同時做為功能標記標示出中界點並且做為動介詞和其它移動動詞一起出現。句式三為動詞複合詞，路徑標記做為其中的第二個動詞。值得注意的是，「經」無法做為及物動詞出現在句式一當中。這說明了「經」較偏向於功能性標記而沒有動詞的特性。藉由在各句式中的不同語法表現，我們也發現每個路徑標記的不同語法特性。「經」偏於功能性標記且較無動詞特徵，「過」擁有最多動詞特性而「越」則是介於兩者之間。

在語意方面，這三個路徑標記各自帶出不同的移動軌道(moving contour)。先前的研究(Hsiao 2003, Zeng 2008)指出「過」可以帶出各種移動軌道。從語料當中我們得知「越」限定其移動軌道為 'go over'，而「經」的移動軌道則未被限定(underspecified)。除了帶出不同軌道外，從「過」和「越」可自身結束一個移動事件這點來看，其本身除了帶有路徑(Route)的概念還隱含了終點(Endpoint)的概念，這點再度說明了這三個路徑標記在

語意上的差異。這兩項語意差異和空間順序以及中文構詞原則的互動關係影響了其在構詞上的表現，「過」可以和其他兩個路徑標記合用故「越過」和「經過」皆為合法複和詞，然而其他組合皆不合法。

本研究深入探討中文移動事件中的路徑標記「過」,「經」,「越」之語法和語意特徵，闡述詞彙語意和構詞之間的互動表現，最終更進一步了解中文移動事件中的路線(Path)概念。

關鍵詞:移動事件，中文，路徑，路線



Specifying Path in Mandarin Motion Events—
A Study of Route Markers

Student: Hsin-Shan Tsai **Advisor: Dr. Meichun Liu**

Graduate Institute of Foreign Literatures and Linguistics
National Chiao Tung University

Abstract

This paper specifies the path in motion events by investigating the grammatical properties and semantic distinction of the three commonly used Mandarin Route markers *guò* 過 'cross/pass', *jīng* 經 'pass' and *yuè* 越 'cross'. It further elaborates how morphological makeups reflect semantic details in motion events. According to Liu et al. (2012a), the semantic component Route may be decomposed from the traditional notion of PATH. It denotes the contour of motion without necessarily specifying a direction or endpoint of the path. Route markers serve to introduce the path contour where the figure moves past a landmark, normally specified as a middle point of the path. Unlike Endpoint markers such as *dào* 到 'arrive' that marks the aimed destination and Direction markers such as *wǎng* 往 'move toward' that marks the path direction, the Route markers in (1) describe the progressing contour of motion, profiling the process of moving with a locational change:

(1) **經**風暴，**過**黑夜，**越**洋海
jīng fēngbào，**guò** hēiyè，**yuè** yanghǎi
pass strorm pass dark-night cross sea
'Pass through the storm and cross the night and the sea.'

These three markers have parallel functions and commonly appear in some syntactic patterns shown as below.

(2) a. **過/越/*經 < Route-NP**
過/越/*經 [邊界/Route-NP]了
guò /yuè/ * jīng biānjiè le
cross boundary ASP
'(Someone) crossed the boundary.'

b. **過/越/經 < Route-NP < Motion Verb < Loc-NP**
過/越/經 [淡水河/Route-NP][到/Motion Verb][對岸/Loc-NP]
Guò/ yuè/ jīng dànshuǐhé dào duìàn
cross Danshui.River arrive opposite
'Cross Danshui River to the opposite bank

c. **Verb < 過/越/經**

[飛/Verb]過/越/經 公路

fēi-guò/ yuè/ jīng gong lù

fly-cross *road*

'Fly over the road.'

These three marker show different grammatical functions in the three syntactic patterns. In Pattern 1, they function as a transitive verb while in Pattern 2, they behave as a typical Route marker, specifying the following noun as the passing landmark and also a prepositional-like coverb, coocurring a motion verb followed by a Loc-NP which referring to a destination of the path. In Pattern 3, the three markers are the second verb in a serial verb construction. It is noted that *jīng* 經 does not show in Pattern 1, in other words, it cannot function as a transitive verb. A close look of corpus data illustrates that these three markers show different behaviors in each pattern and thus they have distinct grammatical status. *Jīng* 經 is the least verbal and most like a grammatical marker. *Guò* 過 is the most verbal and *yuè* 越 is in between.

In addition to grammatical properties, these three markers can be distinguished by their semantic distinction. First, they specify different moving contours. G*uò* 過 may denote all possible contours (Hsiao 2003, Zeng 2008) while *yuè* 越 specifies a particular contour 'go over'. The moving contours in *jīng* 經 are underspecified and thus *jīng* 經 may be compatible with various path contours. Besides specifying different contours, g*uò* 過 and *yuè* 越 are lexically capable of encoding Endpoint while *jīng* 經 only reflects Route. The two semantic attributes differentiate these three markers and further correlate with their morphological makeups: *guò* 過 can be combined with the other two markers in a fixed sequence so that *jīng-guò* 經過 and *yuè-guò* 越過 are allowed but other combinations are not. The interations between the semantic distictions and two related principles: the spacial sequencing and Mandarin compounding principle account for the ungrammaticality.

This study reveals the syntactic and semantic distinctions of the three commonly-used Route markers, illustrating the interesting correlation between lexical semantics and morphological makeups, ultimately further specifying the path in motion events.

Key words: Mandarin, Motion events, Path, Route

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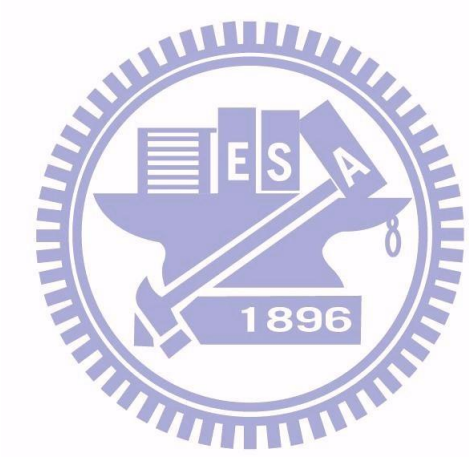

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Chapter 1

Introduction

1.1 The Background

Motion is one of the fundamental domains in human cognition. The concepts of motion are vital in human experiences as motional relations provide the basic constructs in language use, which get widely applied from spatial to non-spatial domains. Talmy (1985, 2000) proposes that the basic motion event consists of four major components: an object (the Figure) moving with respect to another object (the Ground) along a path (Path) with the motional act (Move), which is normally specified by the way the Figure object moves (Manner). Various studies have shown that Path is one of the basic cognitive components in motion events. It plays an essential role in the semantic components in describing motion events. Generally speaking, there are two different ways of defining this semantic component: verb-internal and verb-external approaches. Studies on lexicalization patterns (e.g.,Talmy 2000, Tai 2003, Slobin 2004) as well as on syntax-to-semantics alternation (e.g., Levin 1993, Rappaport Hovav and Levin 2010) examine the semantic components lexicalized in verbs of motion, aiming at the verb-internal features and hence, Path is viewed to be encoded in verbs as a semantic attribute. On the other hand, studies on semantic frames (c.f. Fillmore and Atkins 1992) probe into the frame-specific elements coexisting in a motion event, focusing on verb-external participant roles. From this point of view, the frame of Path is evoked by a set of core participant roles related to the verbs defines the verbs as Path verbs. Liu et al. (2012a) integrate these two approaches, suggesting in Mandarin motion events, the range of semantic participant roles corresponds to the range of lexical semantic attributes and further indicate that the notion of Path proposed by Talmy (1985, 2000) and adopted in other previous studies (e.g., Slobin 2004, Lamarre 2007, Chen and Guo 2009) is quite broad in its sematic range.

Investigating the semantic components verb-externally and verb-internally, Liu et al. (2012a) redefine the notion of Path, decomposing it into three semantically separable but related components: Route (the contour of moving), Direction (spatial orientation), and Endpoint (final point of the contour).

With this integration and the further-defined notion of Path, this study probes into the contour of moving, Route, with a focus on Route markers, the morphemes marking the contour of moving, to specify Path in Mandarin motion events.

1.2 The Issue: Route Markers

Route is the trajectory of path along which the Figure moves. It is normally realized with an overt marker (Liu et al 2012a), such as *jīng* 經 'pass' in (1a), followed by a middle point or a passing reference (a Route-NP), such as *dōngjīng* 東京'Tokyo' in (1a). In other words, Route markers serve to introduce a trajectory to the motion event by specifying an intermediate point which the figure moves past along the trajectory and take the point as a complement (a Route-NP). Moreover, unlike Endpoint markers such as *dào* 到 'arrive' that marks the aimed destination and Direction markers such as *wǎng* 往 'move toward' that marks the path direction, Route markers describe the progressing contour of motion, profiling the process of moving with a locational change as the three commonly-used Mandarin Route markers *guò* 過 'cross/pass', *jīng* 經 'pass' and *yuè* 越 'cross' show in (1b).

(1) a. 再飛經東京回台北

zài fēi jīng dōngjīng huí táiběi

then fly pass Tokyo return Taipei

'(Someone) then flew through Tokyo and back to Taipei.' (Liu et al 2012a)

b.經風暴，過黑夜，度[1]阡陌，越洋海，

jīng fēngbào，guò hēiyè， dù qiānmò，yuè yanghǎi，

pass storm pass dark-night cross field cross sea

'Pass through the storm and the night, cross the field and the sea.'

From the sentence above, we know that these three commonly-used Route markers have parallel functions on marking a passing landmark, physically or metaphorically. In general, they all express that a moving entity (Figure) moves with a path contour on which the Figure moves past some point (Route NP). However, what are the differences among these Route markers? To distinguish each route marker, this paper examines the corpus data to find the significant contrasts in the distributional patterns that might shed light on the unique meaning and grammatical status of the three commonly-used Route markers in Mandarin: *guò* 過 'cross/pass', *jīng* 經 'pass' and *yuè* 越 'cross'. After looking into the patterns, this paper attempts to find the answer to another question: What principle can account for these patterns?

With a detailed analysis of Route marking in Mandarin motion events, the study aims to reveal the semantic-to-morphological correlation as evidence from the collo-grammatical observation. By distinguishing the semantic details of each marker, the distributional patterns on morphological behaviors of these three markers could be accounted for with some principles related to the lexical semantics and the morphological makeup.

1.3 Scope and Goal

The scope of this research aims at the conecept of Route with a focus on the three commonly-used Route markers *guò* 過 'cross/pass', *jīng* 經 'pass' and *yuè* 越 'cross',

[1] Dù 度 'cross' is less used and becomes archaic in modern Mandarin. Thus it is not discussed in this study.

which denote the path contour (Route) in Mandarin motion events. From the corpus data, we found that these three Route markers are not only commonly used in spatial motion events but also in expressing body posture such as *huí guò shēn* 回過身 'turn around' and temperoal motion events. This study focuses on their usage in spatial motion events, which is one of the fundamental domains in human cognition.

To further understand how Route is realized into Mandarin, we investigate the three commonly-used Route markers on their grammatical status, morphological make-ups and their semantic attibutes. Also, the correlations among semantics and morphology are included. Semantically, Route markers are morphemes that introduce a trajectory into a motion event by specifying an intermediate point which the moving entity moves past. Thus, they require a Figure to move as well as a passing reference (a Route NP). Syntactially, these markers take the figure as the subject and the intermediate point as the complement.

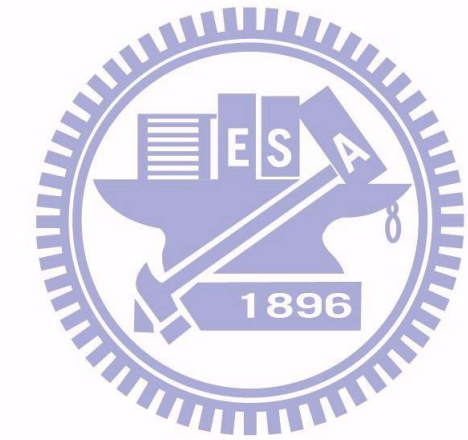
The goal of this study is to specify Path in Mandarin motion events with a focus on the the three commonly-used Mandarin Route markers: *guò* 過 'cross/pass', *jīng* 經 'pass' and *yuè*越 'cross'. It distinguishes these three similar markers both semantically and syntacticaly, providing an evidence of the semantic-to-morphology correlation. The research aims to explore the following questions:

1) ***What are the collocational patterns associated with the commonly found Route markers guò 過, jīng 經 and yuè 越?***
2) ***How can the observed collocational patterns shed light on the grammatical and semantic distinctions of guò 過, jīng 經 and yuè 越?***
3) ***What are the semantic principles that can account for the collocational patterns and morphological sequencing associated with the three markers?***

By answering these questions, this study may lead to a better understanding of Mandarin motion events by revealing how the concept of Route is realized into Mandarin.

1.4 Organization of the Thesis

The thesis is organized as follows: Chapter 1 is the general introduction of the study. Chapter 2 reviews previous works related to the notion of Path and the decomposed component, Route. The studies on the spatial usage of *guò* 過 'cross/pass', *jīng* 經 'pass' and *yuè* 越 'cross' are also reviewed in this chapter. Chapter 3 describes the database, theoretical framework and methodology applied in this study. Chapter 4 presents the preliminary findings motivating this reaserch. Chapter 5 proposes a tentative analysis of the three Mandarin Route markers on their lexical status and meaning. In addition, the anaylsis is incorporated into a frame-based structure to illustrate the relation between Route and Motion. Chapter 6 concludes the study with the significance of the study and notes further research issues.



Chapter 2

Literature Review

2.1 The Approaches to define Path Verbs

To define the semantic components of a verb in motion events, generally speaking, there are two approaches that present different ways to encode the concept of motion, including the notion of Path, into a language. One is the verb-internal approach, which probes into the semantic components lexicalized in verbs of motion, looking for verb-internal lexical features. With this approach, Path is viewed to be encoded in verbs as a semantic attribute. The other is the verb-external approach, which attempts to identify the frame-specific elements coexisting in a motion event, i.e., verb-external participant roles. From this point of view, the verb-external participant roles define the verbs evoking the frame of Path as Path verbs.

Seeing Path is a semantic attribute lexicalized into the verbs, Talmy (2000) proposes Path is a single course/route which the Figure moves along in a motion event. He divides languages into two major types according to whether path information is encoded in a verb or not : verb-framed languages such as Korean, Turkish, Japanese lexicalize path into verbs as shown in (2a) while satellite-framed languages like English, Russian and German encode manner, the way the moving entity moves, into the verb and path is expressed in a satellite to the verb as shown in (2b). On the other hand, Slobin (2004) proposes a third type of languages: equipollently-framed languages such as Mandarin and other serial verbs languages express path and manner using morphemes with equivalent grammatical status as shown in (2c).

(2) a. La botella entró a la cueva (flotando). (Talmy 1985)

[Figure] [Move+Path] [Ground] [Manner]

'The bottle moved-in to the cave (floating).'

b.The bottle floated into the cave. (Talmy 1985)

[Figure] [Move+Manner] [Path] [Ground]

c. *fēi* *chū* *yì zhī māo tóu yīng* (Slobin 2004)

[Move+Manner] [Move+Path] [Figure]

'An owl flies out.'

Talmy (2000) claims that Chinense is a satellite-framed language because the path is not expressed in the main verb. However, Tai (2003) is in a different position. He believes Mandarin encodes the information of Path into a verb. Tai (2003) proposes that what Talmy has called path satellites are main verbs for they can occur alone and be suffixed with the aspect marker *-le* 了 as shown in (3).

(3) a. 約翰飛過英吉利海峽 (Tai 2003)

Yuēhàn fēi-guò yīngjílì-hǎixiá

John fly-cross English-Channel

'John flew across the English Channel.'

b. 約翰　　過了　　英吉利海峽 (Tai 2003)

Yuēhàn　guò-le　　yīngjílì-hǎixiá

John　*cross-ASP*　　*English-Channel*

'John crossed the English Channel.'

Adopting Slobin (2004)'s work, Chen and Guo (2009) suggest Mandarin is an equipollently-framed language, extend the semantic components of motion verbs, and further classify Mandarin motion verbs into four types which include Path verbs. In their work, verbs such as *dào* 到 'arrive', *xià* 下 'go down', *guò* 過 'cross/pass point out the trajectory over which a figure moves, which is typically with respect to another reference object, the Ground.

Rappaport Hovav and Levin (2010) indicate that, in the domain of motion events, the distance of the figure with respect to the ground could be understood as a scale which is composed of points belonging to a set of contiguous locations which together form a path. In view of this, verbs which encode the scale are verbs lexicalizing Path, such as *recede, return,* and *enter.* Lin (2011) adopts the framework of scale structure into Mandarin motion morphemes, claiming Mandarin has morphemes which encode the scale, that is, morphemes lexicalizing Path, such as *tui* 退'recede', *hui* 回 'return' and *jin* 進 'enter'.

Researches on semantic components of Path verbs could be complemented with another approach to lexical meanings. Fillmore and Atkins (1992) propose a frame-based approach, in which 'a word's meaning can be understood only with reference to a structured background of experience, beliefs, or practices, constituting a kind of conceptual prerequisite for understanding the meaning.' Based on this approach, a verb evokes a semantic frame, in which the participant roles related to the verb help define the semantics of the verb. In other

words, the verb evoking the frame of Path is semantically specified with a set of core participant roles. Accroding to FrameNet (http://framenet.icsi.berkeley.edu/), which catergorizes verbs into frames based on Frame Semantics, Path is defined as follows: 'Path is a series of conncected locations, traversed by a moving entity moving under its own power or under the influence of a physical force. The path may be described in various terms depending on whether it is bounded or not. If it is bounded, the path may be identified by its endpoints, which may be presented separately as source and goal.' In this verb-external view, the verb-external elements, a moving entity and a source or goal, help us indentify the path verbs.

With these two different ways of defining semantic components, Path, the basic semantic component in describing motion events, could be viewed as a verb-internal lexical attribute or a verb-external participant role, as outlined below:

Verb-internal	Lexical component encoded in a verb	*Enter* [PATH V]
Verb-external	Frame-specific component in the structured background	*into* + NP [PATH PP]

Table 1: Path as a verb-internal vs. verb-external lexical element[2]

To sum up, Path receives different treatments in different approaches. It may be lexicalized verb-internally as a semantic attribute in the meaning of the verb *enter,* or it can be specified verb-externally as a frame participant realized in the prepositional phrase [*into+NP*], serving as a core frame element in the structured background.

Integrating the two views of Path, Liu et al. (2012a) shows there is an apparent link between the verb-external and verb-internal components. They further indicate that the

[2] Adopted from Liu et al.(2012)

sequence of role components defining the conceptual framework can be mapped onto the sequence of verb morphemes with the same range of lexically specified semantic attributes. To be more specific, the range of semantic roles corresponds to the range of lexical semantic attributes. Examining Path verbs both verb-internally and verb-externally, Liu et al. (2012a) suggest the notion of Path proposed by Talmy (1985, 2000) and adopted in other previous studies (e.g., Slobin 2004, Lamarre 2007, Chen and Guo 2009) is quite broad in its sematic range and thus redefine the notion of Path as Route (the contour of moving), Direction (spatial orientation), and Endpoint (final point of the contour). As illustrated below, the same range of semantic components: Manner, Route, Direction and Endpoint can be realized as semantic participant roles in (4a) or be encoded into serial verb morphemes in (4b). Moreover, the mapping between semantic participants roles and serial verb morphemes which lexicalize the semantic components—[Manner][Route][Direction][Endpoint] is shown as Figure 1:

(4) a. 他 Manner[飛] Route[經日本] Direction[往東] Endpoint[到美國] (Liu et al. 2012a)

tā fēi jīng rìběn wǎng dōng dào měiguó

he fly through Japan toward east arrive America

'He flew east through Japan to America.'

b. 球 Manner[滾] Route[落] Direction[進] Endpoint[到]洞裡 (Liu et al. 2012a)

qiú gǔn luò jìn dào dònglǐ

ball roll fall enter arrive hole

'The ball rolled and fell into the hole.'

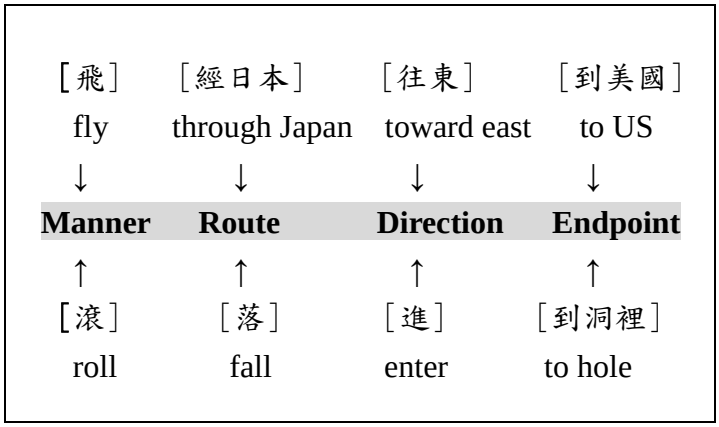


Figure 1. The mapping between semantic participant roles and serial verb morphemes (Liu et al. 2012a)

Liu et al. (2012a) identify the conceptual components lexicalized in Mandarin motion verbs in relation to the role components required in motion events, integrating the conceptual components into a structured background schema. Based on the integration of verb-internal and verb-external approaches, Liu et al.(2012a) decompose the notion of Path into three separate but related components and thus propose the concept of Route, the contour of moving.

2.2 Definition of Route

Liu et al (2012a) propose that Route is defined as a single course along which the Figure moves. It can be realized overtly with a Route-marker *jing* 經 ‘ pass’, which denotes a given route by specifying a passing point. Such a marker is used to mark a specific landmark and can only be followed by a passing point (a Route NP). Moreover, there are Route-encoded verbs such as *yí* 移 ‘move’. The Route verbs denote an act of moving along an implicated route that signals a locational change, without specifying a direction or endpoint**.** There are also some Route-encoded verbs, which on the other hand, may contain other components than “Route”. They may be lexically specified with a direction, forming Route-Direction verbs such as *jiàng* 降 ‘descend’, *shēng* 升 ‘ascend’, *tuì* 退 ‘recede’ ,

luò 落 'fall'. Besides, Route-encoded verbs may also lexically encode Direction as well as Endpoint. Such verbs as *huí* 回 'return' denote a path with contour of moving, the direction of moving and the goal of the motion. To probe into the concept of Route in Mandarin motion events, this study focuses on the morphemes that only encode this semantic component, functioning as Route markers which introduce a given trajectory into the motion event by specifying/marking an intermediate point.

2.3 Previous Analysis of guò 過. yuè 越 and jīng 經

Among the three commonly-used Route markers, *guò* 過 is discussed in a vast volume of studies for its interesting polysemy. This section reviews previous analysis of *guò* 過. *jīng* 經 and *yuè* 越 on their meaning related to motion events.

2.3.1 Previous Analysis of guò 過

Based on Talmy's work on motion events, Wu (2000) notes that the trajectory encoded in *guò* 過 involves some Figure moves past some Ground, which is seen as the central meaning of *guò* 過. With the diverse nature of the Landmark, the central meaning is modified: the route in the motion event is either 'going through', or 'going over/across'. In other words, *guò* 過 has more than one sense, which depends on the properties of the landmark. Wu further explains that Mandarin speakers do not always distinguish three-dimensional passing from two-dimension passing and thus encode both of these two ways of passing into *guò* 過. In Mandarin, the role of the contours and properties of landmarks seems not crucial enough to require some element to specify. Unlike English, which needs a preposition to refer to the route varying with the relation between the landmark and the trajector, the moving entity, Mandarin expresses the motion of traversing/crossing in the cases of going through an enclosed space (e.g., a tunnel or a bush) or in those of going over/across a surface (e.g., water surface, bridge, or street) by a single motion verb *guò* 過.

Similar to Wu's view on the derived path-oriented senses of *guò* 過,Wang (2002) proposes a central image schema of *guò* 過 as shown below with an example *guò mălù* 過馬路 'to cross a road':

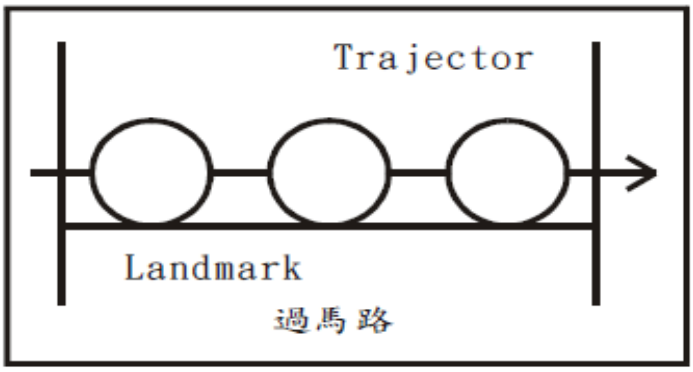


Figure 2. Central schema for *guò* 過 (Wang 2002)

Wang (2002) illustrates the central meaning of *guò* 過 with the image schema above. In this schema, the arrow represents the route that the trajector/Figure is moving along, and the route goes across the Landmark from the boundary of one side to the boundary of the other side. That is, the core meaning of *guò* 過 describes a motion event in which the moving entity moves across the landmark. It is also noted that there is a contact between the trajector and the Landmark. This central schema can alter with the relation between the Figure and the Landmark and thus generate some elaborations referring to other route-oriented senses, 'going through', 'going over' and 'pass by'. Though the trajectory has some contact with the Landmark, there are instances without contact as shown in the schema below with an example *guò mén bú rù* 過門不入 'pass by the door without entering':

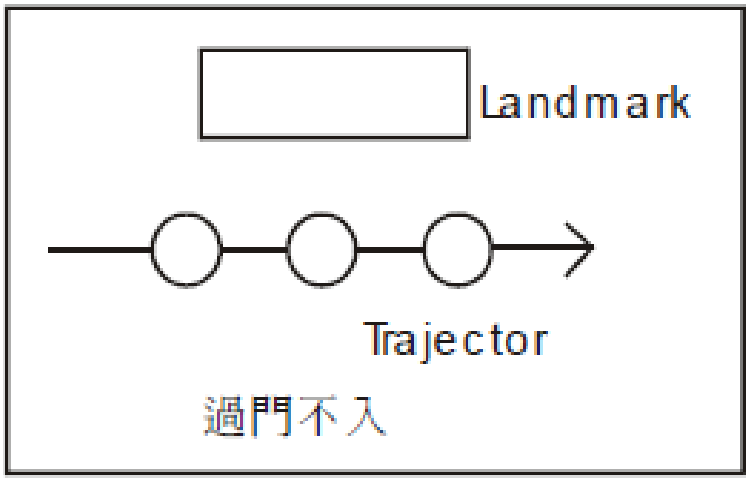


Figure 3. Variant of the central schema for *guò* 過 (Wang 2002)

In addition, since the trajectory varies with the relation between the landmark and the trajector, the nature of the landmark also influences the route. The landmark may be viewed as different geometric shapes: as a two-dimensional arc in *guò qiáo* 過橋 ‘ to cross a bridge’, illustrated in Figure 4, or as a three-dimensional form with a passage through it as in *guò shāndòng* 過山洞 ‘to go through a tunnel’ shown in Figure 5:

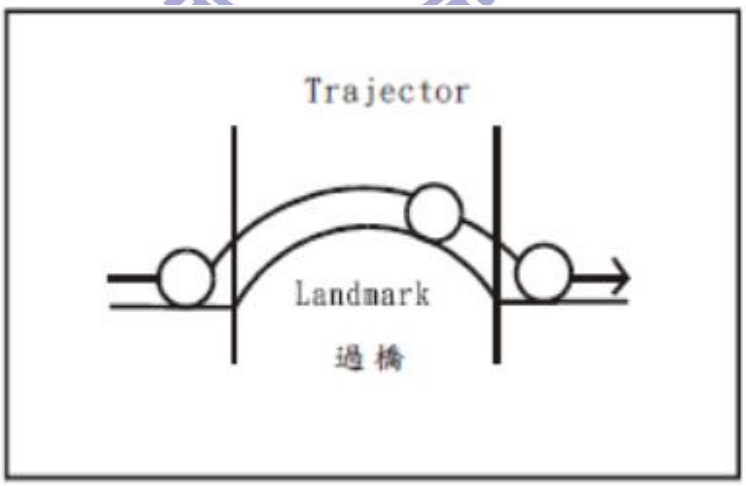


Figure 4.Variant of the central schema for *guò* 過 (Wang 2002)

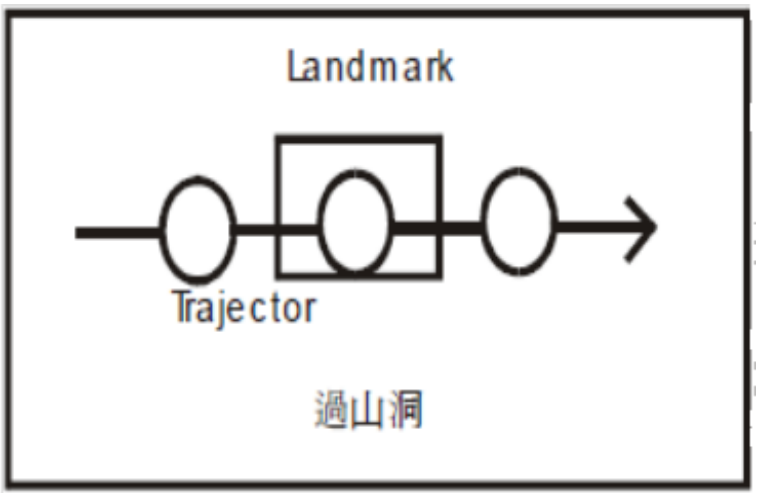


Figure 5.Variant of the central schema for *guò* 過 (Wang 2002)

In summary, as long as some information of the relation between the moving entity and the landmark is added to the central schema, other related senses of *guò* 過 can be derived. Wang (2002) concludes that the central schema could be modified with the rotation of the landmark (vertical or horizontal) or the transformation of the landmark (two dimensional or three dimensional). It is also noticed that there may be contact or no contact between the trajector and the landmark.

A bit different from the view of the central meaning of *guò* 過 in these two previous studies, Hsiao (2003) proposes that *guò* 過 predicates a prototypical activity such that a participant passes a particular intermediate point and reaches an endpoint. Mandarin conceptualizes two typical spatial senses of the verbal *guò* 過. First, it profiles the motional transition through an intermediate point of a crossing movement. Second, it profiles the post-transitional movement to an endpoint, focusing on the arriving movement. These two spatial senses of *guò* 過 are shown as below:

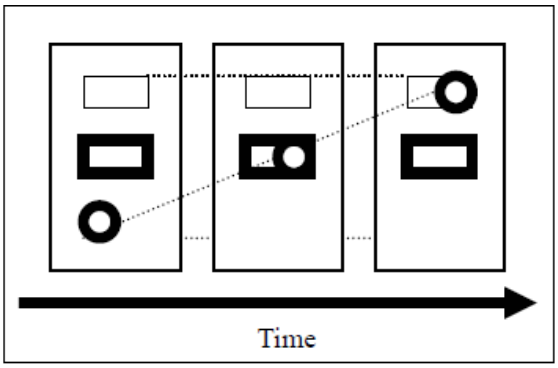


Figure 6.The image schema of the motional transition through an intermediate point of a crossing movement (Hsiao 2003)

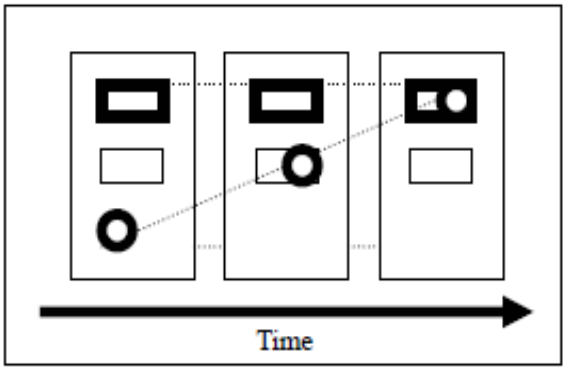


Figure 7. The image schema of the post-transitional movement to an endpoint of an arriving movement (Hsiao 2003)

In these two schemas above, the rightward arrow at the bottom stands for the domain of conceived time, while the domain of physical space is represented by the larger vertical rectangles; the smaller horizontal rectangles refer to the states of the landmark, which is the intermediate point in Figure 6 and the endpoint/ destination in Figure 7. The little circles occurring at different distances from the landmark illustrate the sequential states of the trajector. The first spatial sense of *guò* 過 is shown in Figure 6 where the landmark profiles the intermediate points of a crossing movement such as in the events described by *guò mălù* 過馬路'cross the road' or *bāxiān guòhăi* 八仙過海 'the eight immortals cross the sea.' The road and the sea are the passing point the figure moves past in the crossing event. Figure 7 shows the second spatial sense of *guò* 過, which profiles the destination of an arriving

movement, such as the motion events in *Tángshān guò táiwān* 唐山過台灣 'Tangshan crossed (the Straits) to Taiwan.' and *guò fǔ yí xù* 過府一敘 'go over to your home to have a chat.' In these two events, Taiwan and your home are the goals of the arriving movement.

In addition to seeing *guò* 過 as a motion verb, Hsiao considers *guò* 過 a preposition when it follows a verb. Besides the two spatial senses mentioned above, He suggests that with the various landmarks, the prepositional *guò* 過 displays a set of route-oriented senses such as 'over' in (5a), 'through' in (5b) 'across' in (5c) and 'via' or 'passing by' in (5d).

(5) a. fēi-guò shāntóu 飛過山頭

'fly over the hill.'

b. chuān-guò suìdào 穿過隧道

'pass through the tunnel.'

c. chuān-guò cāochǎng 穿過操場

'go across the sports field.'

d. jīng-guò yóujú 經過郵局

'passing by/via the post office.' Hsiao (2003)

In summary of these previous strudies, *guò* 過 introduces a route into the motion event. Furthermore, there are three different routes involved in the motion event: 1) go over/across 2) go through 3) pass by. With various Landmark seen as different shapes, when *guò* 過 is followed by a surface (two dimensional) landmark, it denotes a contour of 'go over/across' ; while the landmark is an enclosed space (three dimensional), the Figure in the motion event described by *guò* 過 moves with a contour of 'go through'. Moreover, if there is no contact

between the Figure and the landmark, in other words, the relation between them is not so intimate, the route in the motion event would be 'pass by'. To conclude, the variants of the central schema of the motion verb *guò* 過 are specified by adding some further external information of the relation between Figure and the landmark, either the properties of landmark or the contact between the moving entity and the landmark.

As an intergration of these previous strudies on *guò* 過, Zeng(2008) proposes that the Figure in the motion event described by *guò* 過 can move past the reference object in all possible contours. By adding further information of the relation between the Figure and the reference object, various contours are generated. Depending on the relation, the reference object may be seen as a point, a line, or even a surface. Moreover, there may or may not be a contact between the Figure and the reference object. The following sentences adopted from Zeng (2008) illustrate the various possible contours by adding further information of the relation between the Figure and the reference object as shown in (6).

(6) a.他正在過橋 'go across' (Zeng 2008)

tā zhèngzài guò qiáo

He ASP cross bridge

'He is crossing the bridge.'

b.小鳥… 飛呀飛呀，過了一座橋又過了一座山， 'go over' (Zeng 2008)

xiǎoniǎo…fēi ya fēi ya，guò-le yízuòqiáo yòu guò-le yízuòshān

Bird fly RF fly RF cross ASP a-bridge and cross ASP a-mountain

'The bird flies over a bridge and a mountain.'

c.小蝌蚪游了很久,過了很多座橋了， ‘go past’ (Zeng 2008)

xiǎo kēdǒu yóu-le hěnjiǔ， guò-le hěnduōzuò qiáo le

Little tadpole swim ASP a.long.time cross ASP many bridges CRS

‘The little tadpole has swum for a long time and gone past many brides.’

d.這是一條沿河路...一路上有一座橋，橋的附近有一個花園，你開車沿路過了那座橋，離花園不遠的地方有一個白色房子， ‘pass by’ (Zeng 2008)

zhè shì yìtiáo yánhélù… yílùshàng yǒu yízuò qiáo, qiáo de fùjìn

This is a along.river.road all.the.way has a bridge, bridge DE neiborhood

yǒu yíge huāyuán, nǐ kāichē yán lù guò-le nàzuò qiáo, lí huāyuán bù yuǎn

has a garden you drive along road Cross ASP that bridge away garden not far

de dìfāng yǒu yíge báisè fángzi

DE place has a white house

‘This is a road along a river. On the road, there is a bridge nearby which there is a garden. Drive along the road and pass by the bridge, you will see a white house nearby the garden.’

In (6a), the Figure is a human being which only can move past the reference object, the bridge, in a contour of ‘go across’. The Figure in (6b), a bird, can move past the bridge by ‘going over’ while the Figure in (6c) is a tadpole which can move past the bridge in a contour beneath it. The information of the relation between the Figure and the reference object is further provided in (6d), specifying the contour as ‘passing by’.

To sum up, the meaning of *guò* 過 is to move past an intermediate landmark of the path in all possible contours which vary with the relation of the Figure and the intermediate landmark.

With a different viewpoint on motion events, Lin (2011) adopts the framework of scale

structure proposed by Rappaport Hovav and Levin (2010) into Mandarin motion morphemes. The Figure with respect to the ground could be understood as a scale which is composed of points belonging to a set of contiguous locations which together form a path. With the view of the scale, Lin (2011) suggests *guò* 過 does not lexically specify the direction the points are ordered in. To be more specific, she believes *guò* 過 does not denote a clear direction of moving. She further proposes that in the motion event described by *guò* 過, there is always an endpoint, i.e. the other side of the delimited entity to be moved past from the figure's starting point. Although the exact endpoint is not specified, it can be retrieved from the context. For example, as illustrated in (7), we can infer from the context that the event of crossing the city wall starts from the side where the speaker is, and ends at the other side of the wall.

(7) 過城牆那邊兒是城外

guò chéngqiáng nàbiānr shì chéng-wài

cross city.wall that.side is city-outside

'[If you] cross the city wall; that side [of the city wall] is outside of the city.' (Lin 2011)

In addition to the retrival of the endpoint from the context, the scale lexicalized in *guò* 過 also points out that *guò* 過 does encode an endpoint. Lin (2011) believes *guò* 過 lexicalizes a closed scale, which means once the entire Landmark is being moved past (e.g., as indicated by a perfective marker *-le* in (8)), the motion event is finished. The length of the route is determined by the length of the Landmark, the complement *guò* 過 takes, and thus it is varied with the context. As illustrated in (8), *guò* 過 does not allow a *gèng* 更 'more' comparative, because after the bridge is crossed, the figure's motion is finished.

(8) 她在 5 分鐘前過了大橋，*現在過得更遠了

tā zài 5-fēnzhōng qián guò-le dàqiáo, *xiànzài guò de gèng yuǎn le

she in 5-minute ago cross-ASP big.bridge now cross MOD more far ASP

'She crossed the big bridge five minutes ago, and now she crossed further.'

(Intended meaning) (Lin 2011)

Lin claims that *guò* 過 lexicalizes an endpoint with a closed scale whose length is varied with the length of the Landmark, the complement it takes. Depending on the nature of the landmark, *guò* 過 behaves either like a multi-point or two-point closed scale motion verb. For instance, *guò* 過 can take a bridge as its complement. A bridge is a path that usually takes a figure some time to moves past so *guò* 過 in such a sentence is a multi-point closed scale motion morpheme as shown in (9): It is compatible with a duration phrase and describes an event in which the figure has been spending 20 minutes moving past the bridge.

(9) 他過大橋過了 20 分鐘還沒過完

tā guò dàqiáo guò-le 20-fēnzhōng hái méi guò-wán

he cross big.bridge cross-ASP 20-minute still NEG cross-finish

'He had been crossing the big bridge for 20 minutes, but has not finished.' (Lin 2011)

Besides the landmarks denoting complex paths, *guò* 過 can also take a boundary-like route NP as its complement. In such instances, it behaves like a two-point closed scale motion morpheme. For example, in (10), moving past a line is usually instantaneous so it does not allow a duration phrase:

(10) *他過警戒線過了二十分鐘

*tā guò jǐngjièxiàn guò-le 20-fēnzhōng

he cross line cross-ASP 20-minute

'He has been crossing the line for 20 minutes.' (Intended meaning) (Lin 2011)

To conclude, Lin (2011) analyzes *guò* 過 as a special motion morpheme for it takes route NPs as its complement, partially lexicalizing the components of the scales, and determines the order of the points along the scale and the exact endpoint contextually.

2.3.2 Previous Anaylsis of yuè 越

Lin (2011) further probes into *yuè* 越 and views it as a bound morpheme for it cannot occur alone and has to be in combination with another morpheme. With the tests to examine the scale it lexicalizes, she believes *yuè* 越 also encodes a closed scale as shown below. As we can see in (11), once the entire landmark is being moved past, the motion event ends. *yuè* 越 does not allow a *gèng* 更 'more' comparative, because after the national boundary is crossed, the figure's motion is finished. Like the corresponding free morpheme *guò* 過, it takes either nouns denoting complex paths as the Endlish channel illustrated in (12a) or a boundary-like route NPs as the national boundary shown in (12b) as its complement, behaving as a multi-point closed-scale morpheme or a two-point closed-scale morpheme.

(11) 飛機五分鐘前飛越國境了，*現在飛越得更遠了

fēijī wǔ fēnzhōng qián fēi-yuè guójìng le *xiànzài fēi-yuè de

airplane five minutes ago fly-cross nation.boundary ASP now fly-cross MOD

gèng yuǎn le

more far ASP

'The plane flew across the national boundary five minutes ago, and now it flew across further.' (Intended meaning) (Lin 2011)

(12) a. 飛機從法國飛越英吉利海峽到英國，飛越了20分鐘還沒到英國

fēijī cóng fàguó fēi-yuè yīngjílì –hǎixiá dào yīngguó

plane from France fly-cross English-Channel arrive British

fēi-yuè le èrshí fēnzhōng hái méi dào yīngguó

fly-cross ASP twenty minutes still NEG arrive British

'The plane flew from France to British crossing the English Channel. It has been flying for 20 minutes, but has not arrived at British yet.' (Lin 2011)

b. 飛機從法國飛越國境線到德國，*飛越了20分鐘還沒到德國

fēijī cóng fàguó fēiyuè guójìngxiàn dào déguó ， *fēiyuè le

plane from France fly-cross nation.boundary arrive Germany fly-cross ASP

èrshí fēnzhōng hái méi dào déguó

twenty minute still NEG arrive Germany

'The plane flew from France to Germany crossing the nationl boundary. It has been flying for 20 minutes, but has not arrived at Germany yet.' (Intended meaning)

(Lin 2011)

2.3.3 Previous Analysis of jīng 經

Liu et al (2012a) decompose the notion of Path into three separate but related components and propose the concept of Route, the trajectory along which the Figure moves. Liu et al (2012a) suggest 經 *jing* ' pass' is a Route marker which denotes a given trajectory by specifying a passing point such as Tokyo in the sentence below. Such a marker is used to mark a specific landmark and can only be followed by a Route-NP as shown in (1a) here noted again as (13):

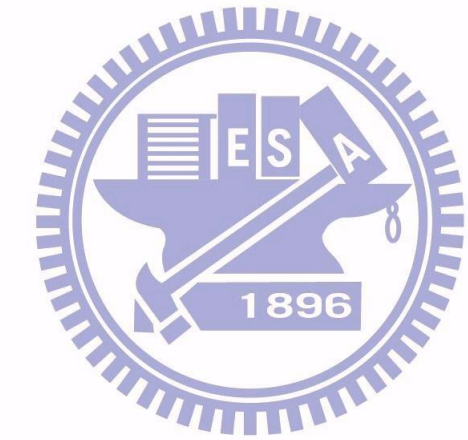
(13) 再飛經東京回台北

zài fēi jīng dōngjīng huí táiběi

then fly pass Tokyo return Taipei

‘(Someone) then flew through Tokyo and back to Taipei.’ (Liu et al 2012a)

As shown in previous section, in addition to *jing* 經, *guò* 過 and *yuè* 越 serve the similar function as a Route marker, introducing a given trajectory into motion events by specifying a passing point. In light of Liu et al (2012a)’s framework, this study aims to investigate the differences among the three commonly-used Route markers, which may shed light on the unique meanings of each marker and provide more information on Route-marking in Mandarin motion events.



Chapter 3

Database, Theoretical Framework and Methodology

3.1 Database

The corpus data used in this study come from Academic Sinica Balanced Corpus of Modern Chinese (http://dbo.sinica.edu.tw/SinicaCorpus/index.html), which involves vast texts with topics in society, life, literature, philosophy, science, and art; the Chinese Word Sketch (http://wordsketch.ling.sinica.edu.tw/), which shows grammatical co-occurrence statistics and differences of distribution patterns; and the online search engine Google (http://www.google.com/webhp?hl=zh-TW).

3.2 Theoretical Framework

3.2.1 Deictic-Incorporated Proto-Motion Event Conceptual Schema

The study is based on the Deictic-Incorporated Proto-Motion Event Conceptual Schema proposed by Liu et al (2012a). Liu et al. (2012a) suggest the general notion of Path is quite broad in its sematic range and thus redefine the notion of Path as Route (the contour of moving), Direction (spatial orientation), and Endpoint (final point of the contour) as illustrated below. In the conceptual schema, a moving entity adopts a particicular way of movement (Manner). With a certain manner of motion, the moving entity decides on the motional contour in which it may pass an immediate point (Route NP) toward a location (Directional NP) and reach its final destination (Locative NP). The speaker-oriented perspective in describing a motion (Deictic) is independently specified in schematizing the self-initiated motion. Incorpoated into Motion, Deictic serves as an optional marker indicating the spatial orientation in relation to the deictic center, the Speaker. Moreover, the notion of Deictic is commonly used to signify the relative position of the Speaker to Locative

NP. In this sense, Deictic also helps to locate a Speaker-centered endpoint.

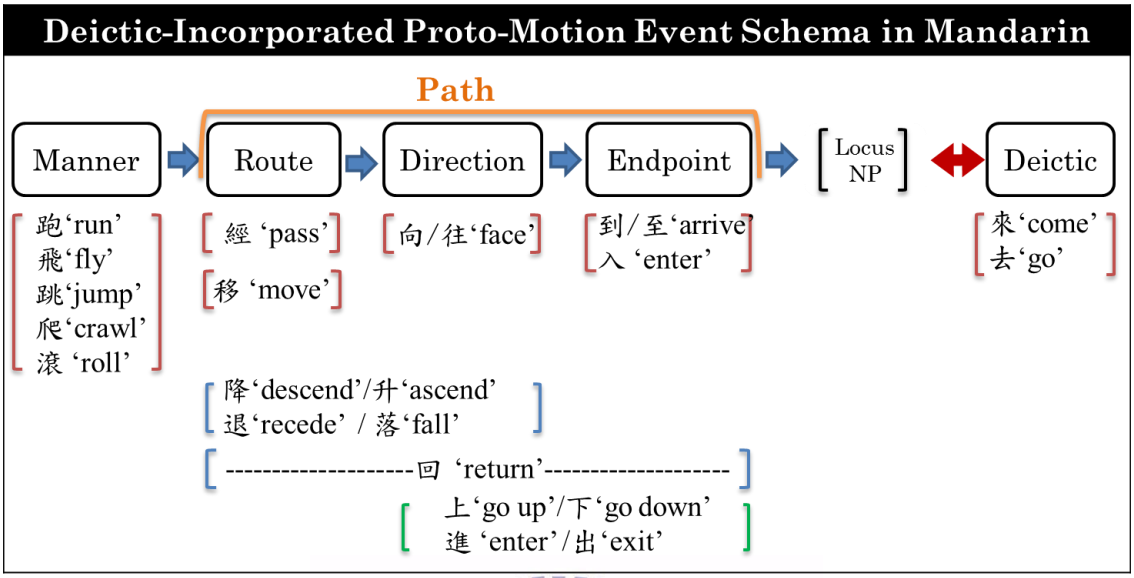


Figure 8.Deictic-Incorporated Proto-Motion Event Schema in Madarin (Liu et al 2012a)

Moreover, the PMS is based on an intergration of verb-internal and verb-external approaches.This study also adopts the intergration, examining the verb-external elements of Route as well as the verb-internal semantic attributes, aims to investigate Route-marking in an all-round way.

3.2.2 Multi-layered Hierachical Structure

To further understand the relation between Route and Motion, another framework adopted in this study is the multi-layered hierarchical structure of frames proposed by Liu and Chiang (2008). The framing system is as follows: Archiframe > Primary frame > Basic frame > Microframe. The lower-layered frames are subframes of the higher-layered frames. The higher frame encodes a broader semantic domain that provides background frame information. As Liu and Chiang's illustration, Archiframe is a broad semantic domain defined with a general event schema; Primary frame is a subpart of the schema with a unique set of core frame elements; Basic frame highlights particular fram elements, realizing them in

particular constructions, called defining patterns; Microframe is further distinguished according to role-internal specifications of frame elements, such as Collocational Association, Semantic Attribute and Morphological Make-up. The frame of Route and the hierachial structure of Motion are illustrated in Chapter 5.

3.3 Methodology

To capture and analyze the unique meaning of each Route marker, three steps are taken successively as follows:

Step 1: Observing the collocational differences among the three commonly-used Mandarin Route Markers *guò* 過, *jīng* 經 and *yuè* 越.

The author searched and collected corpus data in Sinica Corpus, Chinese Word Sketch and Google.

Step 2: Analyzing the grammatical and semantic distinction of each marker.

To distinguish each Route marker, the author examined the data particularly in 1) syntactic patterns 2) collocation patterns 3) grammatical status 4) semantic attributes of each marker.

Step 3: Incorporating the analysis into a frame-based hierarchical structure.

To illustrate the relation between Route and Motion, the analysis of Route markers is incorporated into a frame- based hierarchical structure proposed by Liu and Chiang (2008), which is introduced in Chapter 5.

Chapter 4

Findings

This chapter aims to present and describe the findings observed in corpus data. The study examined the syntactic behaviors of the three commonly-used Mandarin Route markers: *guò* 過 'cross/pass', *jīng* 經 'pass' and *yuè* 越'cross', finding they have different syntactic patterns: Pattern 1: * < Route-NP, Pattern 2: * < Route-NP < Motion verbs < Loc-NP and Pattern 3: Verbs < *. In corpus data, we found there are some different collocational patterns and distribution among these three patterns. In addition, we also examined the semantic differences on moving contours and the capability of encoding Endpoint of each marker. Based on the findings, these three markers with similar functions on Route-marking can be further analyzed and distinguished syntactically as well as semantically with a further understanding of Mandarin motion events. (See chapter 5).

4.1 Syntactic Patterns

In corpus data, we observe there are three common syntactic patterns in which the three markers often appear. First, in Pattern 1, they are often followed by a Route-NP, a noun referring to a passing landmark, as illustrated below.

(14)a. 又過邊界了

yòu guò biānjiè le

again cross boundary ASP

'(Someone) crossed the boundary again.'

b.人不就可以很輕鬆地翻牆越障礙了嗎

rén bú jiù kěyǐ hěn qīngsōngdi fān qiáng

people NEG exactly can very freely.and.easily go.over wall

yuè zhàngài le ma

cross obstacle ASP Q

'Can't people go over the wall and cross the obstacle freely and easily?'

One of the intriguing findings is that *jīng* 經 does not have such a pattern, which suggests the special status of *jīng* 經 among the three markers.

(15) *經邊界了

*jīng biānjiè le

In pattern 2, the three markers are observed to be followed not only by a Route-NP but also another motion verb immediately followed by a Loc-NP, a noun referring to the destination of the moving, as shown below:

(16) a. 從捷運淡水站過淡水河**到**對岸的八里

cóng jiéyùn dànshuǐ zhàn guò dànshuǐhé dào duìàn de bālǐ

from MRT Danshui Station cross Danshui.River arrive opposite DE Bali

'(Someone) crossed Danshui River to Bali in the opposite bank from MRT Danshui Station.'

b.順道越邊界**到**墨西哥去，

shùndào yuè biānjiè dào mòxīgē qù

following.the road cross boundary arrive Mexico go

‘(Someone) followed the road and crossed the boundary to Mexico.’

c. 由大陸來的商船可經淡水河直**達**此地

yóu dàlù lái de shāngchuán kě jīng

from Mainland come DE business-ship Mod pass

dànshuǐhé zhí dá cǐdì

Dan.shui.River directly arrive this-place

‘The business ships from Mainland can go across Danshui River to this place directly.’

In addition, in Pattern 3, they are commonly found to be preceded by another verb to together specify a motion event as illustrated below:

(17) a. 直升機低空**飛過**公路

zhíshengjī dī kōng fēi-guò gong lù

helicopter low height fly-cross public road

‘The helicopter flew over the road in low height.’

b. 球兒直**飛越**觀眾席，

qiúér zhí fēi yuè zhòng xí

ball straight fly cross audience seat

‘The ball flew straight over the audience’

c. 當時正好有一名駕駛員**飛經**該區，

dāngshí zhènghǎo yǒu yì míng jiàshǐyuán fēi-jīng

at.that.moment just exist Num CL driver fly-pass

gāi qū

Dem area

'A pilot just flew by that area at that moment.'

(18) a. 兩腳**跨過**門檻

liǎng jiǎo kuà-guò ménkǎn

Num foot stride-cross threshold

'(Someone) strides over the threshold.'

b.二十萬人**跨越**金門大橋

èrshíwàn rén kuà-yuè jīnméndàqiáo

Num people stride-cross Golden.Gate.Bridge

'Twenty million people went across Golden Gate Bridge.'

c. 當時規劃鐵道外移須**跨經**基隆河兩岸

dāngshí guīhuà tiědào wàiyí xū kuà-jīng jīlónghé liǎng àn

then plan railroad relocation has.to stride-pass Jilong.River two bank

'(Someone) planned the relocation of the railroad had to go across Jilong River then.'

In a word, these three markers are commonly found in the three syntactic patterns: Pattern1: * < Route-NP, Pattern 2: * < Route-NP < Motion verbs < Loc-NP and Pattern 3: Verbs < *. It is noted that *jīng* 經 does not show in Pattern 1. It cannot be followed only by a Route-NP while it can be followed by Route-NP and a motion verb followed by a Loc-NP,

which indicates the special status of *jīng* 經. Among these syntactic patterns, we found some different collocational patterns and distribution shown by these three markers, which are illustrated in the following sections.These different collocational patterns and distribution further display the grammatical status and semantic distinctions of each marker. (See Chapter 5).

4.2 Collocational Patterns and Distribution among Syntactic Patterns

Although the three markers are found in the three common patterns as shown in the previous section, they show some diffrerent behaviors in each pattern, which reveals the grammatical properties and semantic characteristics of each marker. The following sections illustrate the different behaviors on collocational patterns or distribution shown by the three markers in each pattern.

4.2.1 The Different Behaviors in Pattern 1

As shown in the previous section, in Pattern 1, except *jīng* 經, the markers are followed by a Route-NP, referring to the passing landmark. However, in some instances, *guò* 過 can occur alone without a clear Route NP following it but *jīng* 經 and *yuè* 越 cannot:

(19) a. 這陣子的生活就像眼前的列車呼嘯而過/*經/*越

zhè zhènzi de shēnghuó jiù xiàng yǎn qián de lièchē hūxiào ér

this period DE life exactly similar eye in.front.of DE train bluster and

guò/*jīng/*yuè

pass

'This period of life is like the train in front of the eyes, blustering and passing.'

b. 親愛的妳也匆匆而過//*經/*越了

qīnài de nǐ yě cōngcōng ér guò/*jīng/*yuè

beloved DE you also quickly and pass

'Beloved you also passed quickly.'

c. 凡經此過/*經/*越，必留下痕跡

fán jīng cǐ guò/*jīng/*yuè ， bì liúxià hénjī

once pass here pass definitely leave trace

'Once you pass through here, you will definitely leave some traces.'

d. 過/*經/*越來

guò/*jīng/*yuè lái

pass come

'Come over here.'

The finding that only 過 can occur alone without a clear Route-NP suggests its special status. In addition to the collocations with Route-NP, *guò* 過/ *jīng* 經/ *yuè* 越 also shows different behaviors when collocating with aspectual markers. First, *guò* 過 and *yuè* 越 can collocate with the perfective marker *-le* 了 but *jīng* 經 cannot. To be more specific, *-le* 了 can immediately follow *guò* 過 and *yuè* 越 or follow the complement of *guò* 過/*yuè* 越, that is, it can follow the construction of [過/越+NP] as shown below:

(20) a.三個人膽戰心驚，終於都過了那十餘丈狹窄的通道

sān ge rén dǎnzhànxīnjīng，zhōngyú dōu guò le nà shí yú zhàng de

three CL people afraid.and.scared finally all cross ASP that ten more CL DE

xiázhǎi tōngdào

narrow passage

'Three people were afraid and scared, crossing the narrow passage finally.'

b.誰越了界，馬上會被人拖到後面教訓一頓

shéi yuè le jiè， mǎshàng huì bèi rén tuō dào hòumiàn

who cross ASP boundary immediately MOD BEI people drag arrive behind

jiàoxùn yí dùn

teach.a.lesson one CL

'Whoever crosses the boundary, he would be dragged behind to be beaten immediately.'

c. *經了通道

*jīng le tōngdào

(21) a.又過邊界了

yòu guò biānjiè le

again cross boundary ASP

'(Someone) crossed the boundary again.'

b.人不就可以很輕鬆地翻牆越障礙了嗎

rén bú jiù kěyǐ hěn qīngsōngdi fān qiáng

people NEG exactly can very freely.and.easily go.over wall

yuè zhàngài le ma

cross obstacle ASP Q

'Can't people go over the wall and cross the obstacle freely and easily?'

c. *經邊界了

*jīng biānjiè

Besides the perfective marker *-le* 了, we found that only *guò* 過 can collocate with the durative marker *–zhe* 著.As shown below, only *guò* 過 can be immediately followed by *–zhe* 著.

(22) a. 孩子們小心翼翼地過著橋

háizimen xiǎoxīnyìyìdi guò zhe qiáo

children carefully cross ASP bridge

'Children are crossing the bridge carefully.'

b.*越著橋

*yuè zhe qiáo

c.*經著橋

*jīng zhe qiáo

As shown above, in Patterns 1, *guò* 過 can collocate with both markers and *yuè* 越 can collocate with *-le* 了 while *jīng* 經 cannot collocate with any. Besides the different behaviors in the collocations with aspectual markers, we found that *guò* 過 and *yuè* 越 in this pattern can be followed by another event while *jīng* 經 cannot. To be more specific, *jīng* 經 requires an Endpoint verb/marker with an exact destination to collocate with another event.

(23) a. 還過國境抓俘虜

hái guò guójìng zhuā fúlǔ

even cross boundary arrest captive

‘(Someone) even crossed the boundary to arrest the captive.’

b.波蘭參議員越邊界抓人

pōlán cānyìyuán yuè biānjiè zhuā rén

Poland senator cross boundary arrest people

‘The Poland senator went over the boundary to arrest someone’

c. *經邊界抓人

jīng biānjiè zhuā rén

d. 村民都得繞道經橫店或南馬大橋到對岸幹活

cūnmín dōu de rào dào jīng héngdiàn huò nánmǎdàqiáo dào

villager all have.to detour road pass Hengdian or Nanma.Bridge arrive

duìàn gànhuó

opposite work

‘The villagers all have to make a detour to go past Hendian or Nanma Bridge to arrive the opposite bank to work.’

In (23a) and (23b), the phrases *zhuā fúlǔ* 抓俘虜 'to arrest the captive' and *zhuārén* 抓人 'to arrest someone' are the other events in addition to the motion events introduced by *guò* 過 and *yuè* 越. The other events can immediately follow *guò* 過 and *yuè* 越 with their complements. However, in (23c), *jīng* 經 with its complement cannot be followed by another event illustrated by the phrase *zhuārén* 抓人 'to arrest someone'. Only when being followed by an Endpoint verb/marker such as *dào* 到 'arrive' can *jīng* 經 collocate with another event as (23d) shows. The findings on the different behaviors shown by each marker in Pattern 1 lead to some precise questions: 1) Why can *guò* 過 occur alone without a clear Route-NP while the other two markers cannot? 2) Why can *guò* 過 collocate with aspectual markers both *–le* 了 and *–zhe* 著 while *yuè* 越 only can collocate with *–le* 了 and *jīng* 經 cannot co-occur with any? 3) Why can *guò* 過 and *yuè* 越 collocate with another event while *jīng* 經 requires an Endpoint verb/marker? These patterns illustrate the grammatical properties and semantic distinguishments of each marker, which is further explained in the following chapter.

4.2.2 The Different Behaviors in Pattern 2

In addition to the different collocational patterns in Pattern 1, the three markers show different behaviors in their distribution in Pattern 2. In corpus data, *jīng* 經 is found more predominant in this pattern as shown by the frequency of *guò* 過, *yuè* 越, *jīng* 經 occuring in Pattern 2 in sinica corpus, which is illustrated as the table below.

*<Route-NP<Motion V<Loc-NP	Count	Frequency
過	5/67	7.46%
越	2/10	20%
經	23/39	58.974%

Table 2. The frequency of *guò* 過, *yuè* 越, *jīng* 經 occurring in Pattern 2 in sinica corpus

As we can see in the table above, *Jīng* 經 shows the highest frenquecy of occurring in Pattern 2. The predominance of occurance in this pattern suggests that *Jīng* 經 is different from the other two markers in some way, which is further discussed in chapter 5.

4.2.3 The Different Behaviors in Pattern 3

As illustrated in the syntactic patterns, in Pattern 3, these three markers are commonly observed to be preceded by verbs to specify a motion event. One of the intriguing findings is that *guò* 過 seems to be more predominant in combination with verbs than the other two Route markers. To be more specific, *guò* 過 seems to combine with more verbs than *jīng* 經 and *yuè* 越 as illustrated below:

(24) a. 當時有三、四名男子翻過緬甸大使館的圍牆，

dāngshí yǒu sān、sìmíng nánzǐ fānguò miǎndiàn dàshǐguǎn de wéiqiáng

then have three four man turn.over-cross Myanmar embassy DE wall

‘There were three or four men going across the wall of Myanmar embassy then.’

b. *翻經

*fānjīng

c.他曾三次翻越喜馬拉雅山，四次跨越大興安嶺

tā céng sān cì fānyuè xǐmǎlāyǎshān sìcì

He ever three time trun.over-cross the Himalayas four time

Kuàyuè dàxīngānlǐng

cross-cross Daxingan Mountain

‘He has gone over the Himalayas three times and Daxingan Mountain four times.’

(25) a. 暴漲的洪水流過市區，

bào zhǎng de hóngshuǐ liúguò shìqū

sudden.and.violent rise DE flood flow-pass downtown

‘The suddenly and violently rised flood flew past the downtown.’

b. 淡水河流經台灣五個縣市，

dànshuǐhé liújīng táiwān wǔ ge xiàn shì

Dansui.River flow-pass Taiwan five CL county city

‘Dansui River flows past five counties and cities of Taiwan.’

c. *流越

*liú-yuè

(26) a. 河水湧過堤壩

héshuǐ yǒngguò tǐbà

river surge-pass dikes.and.dams

‘The river surged past dikes and dames.’

b.*湧經

* yǒng-jīng

c. *湧越

* yǒng-yuè

(24)-(26) are grammatical combinations of *guò* 過 with verbs; however, *jīng* 經 and *yuè* 越 form ungrammatical makeups respectively in (24) and (25). Moreover, *jīng* 經 and *yuè* 越 both cannot be preceded by some verbs such as *yǒng* 湧 'surge' in (26). To inspect the predominance of *guò* 過 in combination with verbs, we examine the 37 verbs[3] which are observed to precede *guò* 過 in Zeng (2008) which uses Centers of Chinese Linguistic PKU[4] as the database, investigating whether the same verbs could combine with the other two Route markers. We found there are some verbs that cannot combine with *yuè* 越 but can precede *jīng* 經 such as *dù* 踱 'pace', *liú* 流 'flow', *lù* 路 'pass'. In addition, there are some verbs that cannot co-occur with *jīng* 經 but can precede *yuè* 越 such as *dù* 渡 'cross a river', *màn* 漫 'overflow', *shè* 涉 'wade', *fān* 翻 'go across', *shǎn* 閃 'dodge', *fú* 拂 'brush', *chōng* 衝 'rush'.There are also some verbs that cannot combine with these two markers such as *yā* 壓 'press', *tōng* 通 'lead to', *jǐ* 擠 'squeeze', *yǒng* 湧 'surge', *yuè* 越 'cross', *jīng* 經 'pass'. The three groups of verbs are shown in the following table.

[3] Zeng(2008) observes more than 37 verbs that can precede guo 過. We only examine the verbs that are monophonemic and used in motion events when combining with guo 過.

[4] URL: http://ccl.pku.edu.cn/ccl%5Fcorpus/xiandaihanyu/

*V越		*V經		*V越*V經	
dù 踱 'pace'	+越	*dù* 渡 'cross a river'	+經	*jīng* 經 'pass'	+越/經
		màn 漫 'overflow'		*yuè* 越 'cross'	
liú 流 'flow'		*shè* 涉 'wade'		*tōng* 通 'lead to'	
		shǎn 閃 'dodge'		*yā* 壓 'press'	
lù 路 'pass'		*fú* 拂 'brush'		*jǐ* 擠 'squeeze'	
		chōng 衝 'rush'		*yǒng* 湧 'surge'	

Table 3. The verbs that cannot combine with *jīng* 經/*yuè* 越

These verbs show the restrictions of *jīng* 經/*yuè* 越 on combining with verbs, which are elaborated with their semantic-to-morphological correlation in the following chapter. Here we note that *guò* 過 can combine with all the 37 verbs found in Zeng (2008) while *jīng* 經/*yuè* 越 can not occur with some of the verbs.The reasons for the ungrammaticality of these combinations are well-explained with a clear elaboration of the correlation between semantics and morphology in Chapter 5. In other words, *guò* 過 shows the predominace in combining with verbs. Another interesting finding in this pattern is that *guò* 過 also can co-occur with the other two Route markers *jīng* 經 and *yuè* 越 while they cannot combine with each other:

(27) a. 一路上我們會經過幾家飯館

yílùshàng wǒmen huì jīng-guò jǐjiā fànguan

on the way we Mod pass-cross several restaurant

'We will go past several restaurants on the way.'

b.災難已經越過地平線

zāinàn yǐjīng yuè-guò dìpíngxiàn

disaster already cross-pass horizon

'The disaster already crossed the horizon.'

c. *經越

jīng-yuè

d.*越經

yuè-jīng

It is also noted that there is a fixed order in the combination of *guò* 過 with other two markers. The restriction is that *jīng* 經 and *yuè* 越 can precede *guò* 過 but cannot be vice versa:

(28) a. *過經

guò-jīng

b.*過越

guò-yuè

It seems that *guò* 過 can collocate with most verbs. However, there are some verbs that cannot precede all these three makers:

(29) a. 上*過/*經/*越

shàng *guò/*jīng/*yuè

ascend

b.下*過/*經/*越

xià *guò/*jīng/*yuè

descend

c.進*過/*經/*越

jìn *guò/*jīng/*yuè

enter

d.出*過/*經/*越

chū *guò/*jīng/*yuè

exit

e.回*過/*經/*越

huí *guò/*jīng/*yuè

return

In addition to the different collocational patterns with verbs, these three Route markers show different behaviors when collocating with aspectual variations. The combination of [V 過] can be separated by aspectual markers but the makeup of [V 經] and [V 越] cannot.

(30) a. 你爬得過世界上所有的高峰，

nǐ pá de guò shìjiè shàng suǒyǒu de gāofēng

you climb DE cross world on all DE mountain

'You are able to climb over the mountains in the world.'

b. *爬得經

*pá de jīng

c. *爬得越

*pá de yuè

(31) a.為什麼螞蟻爬不過橡皮筋?

wèishénme mǎyǐ pá bú guò xiàngpíjīn

why ants crawl NEG pass bend

'Why can not ants crawl past the bend?'

b.*爬不經

*pá bù jīng

c.*爬不越

* pá bú yuè

(32) a.人飛著過馬路

rén fēi zhe guò mǎlù

people fly Asp cross road

'People fly across the road.'

b.*飛著經

* fēi zhe jīng

c.*飛著越

* fēi zhe yuè

(33) a.蝴蝶飛了過滄海

húdié fēi le guò cānghǎi

butterfly fly ASP cross sea

'The butterfly flies across the sea.'

b.*飛了經

* fēi le jīng

c.*飛了越

* fēi le yuè

These findings in Pattern 3 intrigue some more specific questions following: 1) Among the three markers, why does *guò* 過 occur most frequently in the combinations with verbs to depict a motion event? 2) What are the restrictions on combining *guò* 過/ *jīng* 經/ *yuè* 越 with verbs? 3)Why can *guò* 過 even be combined with the other two markers? 4) Why cannot *jīng* 經 and *yuè* 越 combine with each other? 5)Why is there a fixed order of combining *guò* 過 and the other two Route markers so that only the construction of *jīng-guò* 經過 and *yuè-guò* 越過 are grammatical? 6) Why can the makeup of [V 過] be separated but [V 經] and [V 越] cannot? In the following chapter, we aim to find out what principles can account for these findings on morphological make-ups in this pattern.

4.3. Moving Contours

With the previous studies on *guò* 過 (Hsiao 1997, 2003,Wu 2000, Wang 2002, Zeng 2008) we know that the Figure in the motion event described by *guò* 過 could move past an intermidaite point of the path in all possible contours. Different contours such as 'go over', 'go through', 'go across' and 'pass by' are generated with further information of the

relation between the Figure and the passing landmark. In addition to the relation between Figure and the passing landmark, we found the manner of motion may also have an effect on contours as shown below.

(34) a. 飛過城門

fēi-guò chéng mén

fly.cross castle gate

'Fly over the gate of the castle.'

b..鑽過城門

zuān-guò chéng mén

drill.cross castle gate

'Go through the gate of the castle.'

As we can see, *guò* 過 introduces all possible contours which vary with different relation between Figure and Landmark as well as the manner of motion. On the other hand, the figure in the motion event described by *yuè* 越 only can move past the intermediate point in the contour of ' go over' while the moving contours of *jīng* 經 are underspecified and thus they are vaious as shown below.

(34) a. 學生們還參與了官兵的越障礙比賽 ('go over')

xuéshengmén hái cānyù le guanbīng de yuè zhàngài

students even join ASP soldier Pos cross obstacle

bǐsài

competition

'The students even joined in the soldiers' competition of moving over the barriers.'

b.波蘭參議員越邊界抓人(‘go over’)

pōlán cānyìyuán yuè biānjiè zhuā rén

Poland senator cross boundary arrest people

‘The Poland senator went over the boundary to arrest someone’

c. 防範北市色情行業越淡水河營業(‘go over’)

fangfàn běishì sèqínghangyè yuè dànshuǐhé yíngyè

prevent Taipei.city prostitution cross Dan.shui.River carry-on-business

‘to prevent the prostitution in Taipei city from going over Danshui River.’

d. 越海傳授栽種技術(‘go over’)

yuè hǎi chuánshòu zāizhòng jìshù

cross sea teach plant skill

‘(someone) went over the sea to teach the planting skill.’

(35) a.由大陸來的商船可經淡水河直達此地 (‘go across’)

yóu dàlù lái de shāngchuán kě jīng

from Mainland come DE business-ship Mod pass

dànshuǐhé zhí dá cǐdì

Dan.shui.River directly arrive this-place

‘The business ships from Mainland can go across Danshui River to this place directly.’

b. 敵方以巡弋飛彈經淡水河進入台北市 (‘go over’)

dífāng yǐ xúnyìfēidàn jīng dànshuǐhé jìnrù táiběi shì

enemy use cruise.missle pass DanshuiRiver enter Taipei city

‘The enemy used cruise missles to go over Danshui River and ener Taipei city.’

c.從火車站經隧道過來還是比較方便的 (‘go through’)

cóng huǒchēzhàn jīng suìdào guòlái háishì bǐjiào fangbiàn de

from train.station pass tunnel come-over still more convenient DE

‘It is more convenient to come over here through the tunnel from the train station.’

d. 失事機長數經家門不入 (‘pass by’)

shīshì jīzhǎng shù jīng jiā mén bù rù

crash plane.captain several pass home door NEG enter

‘The plane captain in the crash has passed by his home without entering several times.’

e. 這道淺灘經台灣海峽延伸至澎湖列島 (‘go along’)

zhè dào qiǎn tān jīng táiwān-hǎixiá yánshēn zhì pénghú lièdǎo

this CL shallow beach pass Taiwan.Strait extend arrive Penghu islands

‘This shallow beach goes along Taiwan Strait and extends to Penghu Islands.’

In sum, the three Route markers specify different moving contours. *Guò* 過 introduces all possible contours while *yuè* 越 specifies a particular moving contour ‘go over’ . In addition, the contours of *jīng* 經 are underspecified and thus *jīng* 經 is compatible with various contours. The differences among the moving contours of these three Route markers distinguish them semantically. The following chapter will discuss the distinguishments more specifically.

Chapter 5

Analysis

This chapter presents a corpus-based analysis of the three commonly-used Route markers *guò* 過, *jīng* 經 and *yuè* 越 by examining their syntactic and semantic differences. Although they have parallel functions on introducing a moving contour into a motion event, they show some different syntactic behaviors as illustrated in the previous chapter. Based on these different behaviors, these three markers can be distinguished with their grammatical status and semantic distinction. With such a further understanding of Route-marking in Mandarin, this study provides some semantic-to-morphological correlation with related principles to lexical semantic and morphological sequencing. Furthermore, we incorporate the analysis into a frame-based hierarchical structure proposed by Liu and Chiang (2008) to illustrate the relation between Route and Motion. Section 5.1 elaborates the differences among the three Route markers *guò* 過, *jīng* 經 and *yuè* 越 according to their grammatical status and semantic distinction shown by the findings in Chapter 4. Section 5.2 will explain the semantic-to-morphological correlation observed in Chapter 4 with some semantic and morphological principles. Section 5.3 describes the conceptual schema that helps illustrate the cognitive background of self-initiated motion events. Section 5.4 presents the hierarchical structure of the framing system and hierarchical relation among each frame with a focus on Route frame.

5.1 The Differences among guò 過, jīng 經 and yuè 越

To probe into the Route-marking in Mandarin, we examine the three commonly-used Route markers *guò* 過, *jīng* 經 and *yuè* 越 on their grammatical and semantic distinction based on the corpus observations. The differences among the three markers are illustrated

with their grammatical distinction first and their semantic distinction later.

5.1.1 Grammatical Distinction of guò 過, jīng 經 and yuè 越

Based on the corpus observations shown in the previous chapter, these three Route markers behave differently on syntactic performances. They have the three commonly-appearing syntactic patterns: Pattern 1: * < Route-NP, Pattern 2: * < Route-NP < Motion verbs < Loc-NP and Pattern 3: Verbs < *. The Route markers show different grammatical function in each pattern. The grammatical function of each marker is illustrated as the table below.

Grammatical Function	Guò過	Jīng經	Yuè 越
Transitive verb 過／越／*經<Route-NP	✔	✘	✔
Route marker/Coverb 過／越／經<Route-NP<Motion V<Loc-NP	✔	✔	✔
V2 in serial verb construction V<過／越／經	✔	✔	✔

Table 4 The grammatical function of *guò* 過/*yuè* 越/*jīng* 經 in the three common patterns

Pattern 1 shows the Route markers could function as a transitive verb followed by a noun. Pattern 2 illustrates that the three markers also could serve as typical Route markers marking the passing point of the path as well as prepositional-like coverbs co-occurring with another motion verbs followed by a Loc-NP. Pattern 3 forms a serial verb construction and the Route markers behave as the second verb in the construction. It is found that *jīng* 經 does not appear in Pattern 1.That is, *jīng* 經 cannot stand alone as a transitive verb. In this view, *jīng* 經 is less verbal than the other two markers. Moreover, *jīng* 經 is found more

predominant in Pattern 2, functioning as a typical Route marker. Seeing the grammatical function shown in the three syntactic patterns, we assume *jīng* 經 is less verbal and behave more like a functional marker among the three. To further examine the different grammatical properties of each marker, we compare these three Route markers according to their different grammatical functions in each pattern.

5.1.1.1 As Transitive Verbs in Pattern 1

As we mentioned above, *jīng* 經 cannot stand alone as a transitive verb and behave as a Route marker predominantly. Thus it is less verbal than the other two. This can be evidenced with more collocational patterns related to the grammatical status. The collocational patterns associated with Pattern 1 are shown in the table below:

Collocational Patterns	Guò 過	Yuè 越	Jīng 經
Collocate with -le了	✔	✔	✘
Collocate with –zhe 著	✔	✘	✘
Occur without Route-NP	✔	✘	✘

Table 5 The collocational patterns associated with Pattern 1

As shown in the table above, when being followed only by a Route-NP, *jīng* 經 cannot collocate with any aspectual marker such as *-le* 了 and *–zhe* 著 while *yuè* 越 can collocate with *-le* 了 and *guò* 過 can collocate with both. According to Li and Thompson (2007), the perfective marker *-le* 了 and the durative marker *–zhe* 著 are verbal suffix.That is, they only follow verbs. In this view, *jīng* 經 does not have the feature of verbs but *guò* 過 and *yuè* 越 do. Therefore, *jīng* 經 is less verbal than the other two. This distinction of *jīng* 經 leads to the

comparison of the other two Route markers which have the feature of verbs. Since *guò* 過 can collocate with both aspectual markers which are only attached to verbs, it is more verbal than *yuè* 越 which only can collocate with the perfective marker *-le* 了. Moreover, it is found that in this pattern *guò* 過 can stand alone without a clear Route-NP while *yuè* 越 and *jīng* 經 can not. This finding suggests that *guò* 過 behaves as a free unit while *yuè* 越 and *jīng* 經 do not. Considering verbs are free units, we assume *guò* 過 is more verbal than the other two markers. The different behaviors in Pattern 1 illustrate *guò* 過 is the most verbal while *jīng* 經 is the least and *yuè* 越 is in between.

5.1.1.2 As Route Markers/Coverbs in Pattern 2

As we mentioned in section 4.2.2, *jīng* 經 is found more predominant in Pattern 2. The highest frequency of occurring in this pattern (see Table 2 in Sec.4.2.2) shows that *jīng* 經 behaves most like a Route marker marking the following noun as the passing landmark. The predominace of functioning as a Route marker verifies *jīng* 經 is less verbal and more like a grammatical marker. The grammatical status of *guò* 過 and *yuè* 越 is evidenced with more collocational patterns in the following section.

5.1.1.3 As the Second Verb in Serial Verb Constructions in Pattern 3

In the previous chapter, we found that these three Route markers all can be the second verb in a serial verb construction to specify a motion event. However, these three Route markers show different behaviors in such a serial verb construction. The collocational patterns associated with Pattern 3 are as the table shown below.

Collocational Patterns	Guò 過	Yuè 越	Jīng 經
Be separated from the verb in [V過/經/越]	✔	✘	✘

Table 6 The collocational patterns associated with Pattern 3

As we can see, only *guò* 過 can be separated from the preceding verb while the other two cannot. This indicates *guò* 過 behaves as a free unit in such a combination while the other tow are less free. As a free unit, *guò* 過 is more verbal than the other two Route markers in the serial verb construction.

In brief, intergrating the three grammatical functions Route markers serve, we found these three Route markers have different status on verbality. *guò* 過 is the most verbal and *yuè* 越 is less verbal. *Jīng* 經 is the least verbal and behaves most like a grammatical marker. The syntactic differences on lexical status are shown with a continuum below:

Figure 9.The lexical status of *guò* 過,*jīng* 經 and *yu*è 越

5.1.2 Semantic Distinction of guò 過, jīng 經, yuè 越

Although these three Route markers have parallel functions on introducing a trajectory by specifying a passing point of the path, they show some different semantic distinction.

They could be distinguished by two semantic attributes introduced in the following sections.

5.1.2.1 The Moving Contours

As we observed in the previous chapter, the Figure in the motion events depicted by *guò* 過, *jīng* 經 and *yuè* 越 moves past the intermediate point in different contours.In other words, the three Route markers specify different contours. *Guò* 過 introduces all possible moving contours which vary with different manner of motion and the relation between Figure and Landmark. *Yuè* 越 specifies a particular contour 'go over' while the contours of *jīng* 經 are underspecified and thus *jīng* 經 may be compatible with various contours. The differences on moving contours distinguish these three markers and are illustrated as the image schemas below:

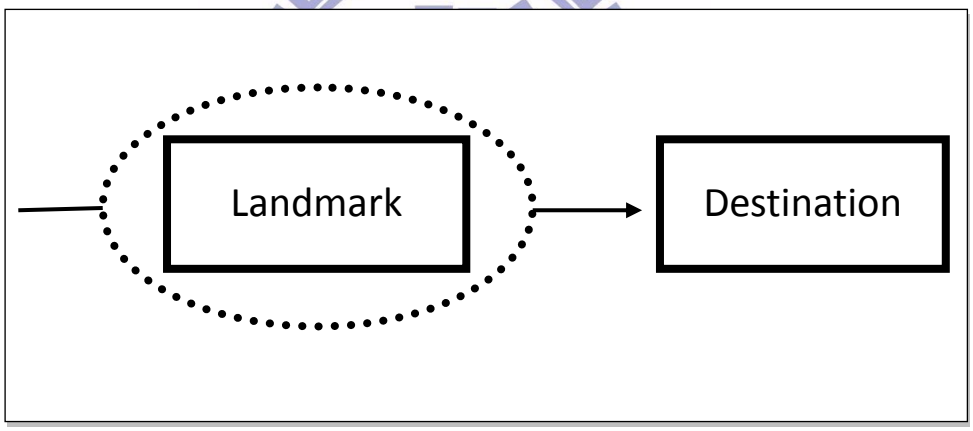


Figure 10.The Image Schema of *jīng* 經

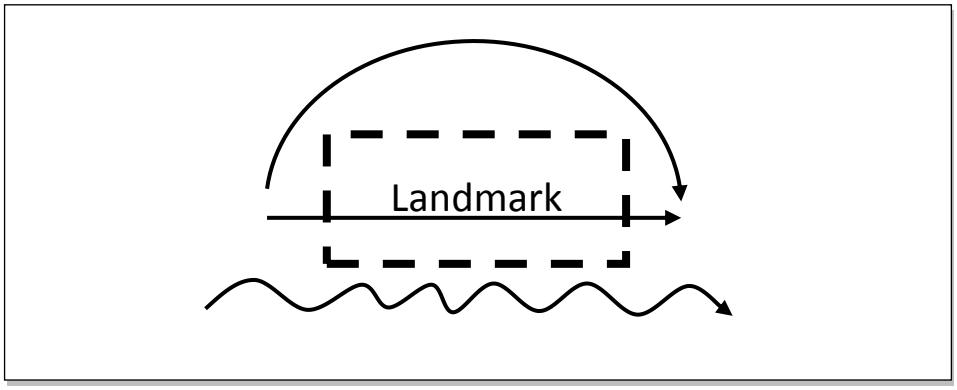


Figure 11.The Image Schema of *guò* 過

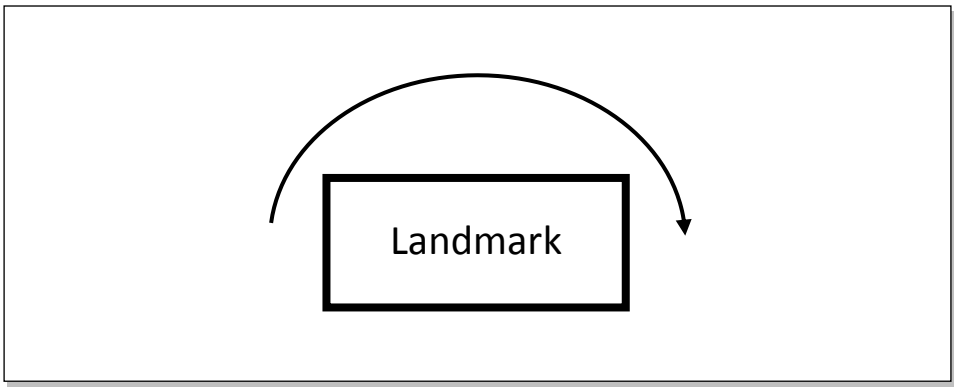


Figure 12.The Image Schema of *yuè* 越

In Figure 10, the dotted line stands for the underspecified moving contours. The schema expresses that the Figure moves past the Landmark, the intermediate point, to a destination in an underspecified moving contour. In this figure, as an underspecified Route marker, *jīng* 經 marks the landmark as a passing point of the path. On the other hand, in Figure 11, the arc line refers to the contour of 'go over' and the straight line illustrates the contour of 'go through'. The curved line stands for all the possible contours introduced by *guò* 過, varying with the relation between Landmark and Figure. The line in Figure 12 is the specific moving contour 'go over' described by *yuè* 越. It is noted that only the Landmark in *guò* 過 can be shaded for only *guò* 過 is allowed to stand alone without a clear Landmark.

5.1.2.2 The Endpoint

As shown in the previous chaper, *guò* 過 and *yuè* 越 in Pattern 1 can be followed by another event while *jīng* 經 requires an Endpoint verb/marker with an exact destination. This finding indicates that in the motion event described by *guò* 過/ *yuè* 越, once the intermediate point is moved past, the whole motion event is finished, which is also suggested in Lin (2011).Thus the finished motion event can be added by another event. However, in the motion event denoted by *jīng* 經, the whole motion event has not finished after the intermediate point is moved past. Therefore, the unfinished motion event cannot be followed

by another event. To add another event, *jīng* 經 requires an Endpoint verb or marker with an exact final point. The requirement of an Endpoint verb/marker indicates that *jīng* 經 does not encode the concept of Endpoint. Thus *jīng* 經 needs a motion verb specifying Endpoint to finish the motion event while *guò* 過 and *yuè* 越 can finish the motion event by themselves. In this view, *guò* 過 and *yuè* 越 are lexically capable of encoding Endpoint. They do not fully encode the component of Endpoint for they cannot mark the exact destination and need the Endpoint verb/marker to specify the final point of the path as shown below:

(36) a.記得過[小橋/Route NP] 到[對面的賞桐步道/Loc-NP]

jìdé guò xiǎoqiáo dào duìmiàn de shǎngtóngbùdào

remember cross small.bridge arrive opposite DE see.tung.tree.trail

'Remember to cross the small bridge and arrive at the opposite where there is a trail where you can see tung trees.'

b.蘇聯紅軍越[芬蘭邊界/Route NP] 去到[曼諾海姆防線/Loc-NP]

sūlián hóng jūn yuè fēnlán biānjiè qù dào mànnuòhǎimǔ fángxiàn

Soviet red army cross Finland boundary go arrive Mannerheim.Line line.of.defense

'The Soviet Army crossed the boundary of Finland and arrived at Mannerheim Line.'

In summary, *guò* 過, *jīng* 經 and *yuè* 越 have different meanings on Route-marking. *guò* 過 can describe all possible moving contours and is lexically capable of encoding Endpoint, having some semantic attribute of Endpoint: It can finish the motion event by itself but cannot mark the exact desitnation. *Jīng* 經 serves as a pure intermediate point marker, marking a passing point and thus introduces a trajectory where the Figure moves in an underspecified contour. Last but not the least, *yuè* 越 denotes a specific moving contour 'go over' and lexically capable of encoding Endpoint for it can finish the motion event by itself

while cannot mark an exact destination. The semantic differences are illisutrated in the table below.

	The contour of moving	Lexically capable of encoding Endpoint
過	All possible contours	Yes
經	Unspecified	No
越	Go over	Yes

Table 7.The semantic distinction of *guò* 過, *jīng* 經 and *yuè* 越

5.2 The Semantic-to-morphological Correlation

The semantic distinction of these three Route markers helps us to account for the semantic-to-morphologicl correlation shown in the combinations of verbs and the markers. Moreover, the different meanings also explain the ungrammaticality raised when these three markers combine with each other：**guò-jīng* *過經, **guò-yuè* *過越, **jīng-yuè* *經越, **yuè-jīng* *越經. The following sections illustrate how the semantic differences influence the morphological makeups with some related principles.

5.2.1 Collocation with Each Other

As shown in chapter 4, these three Route markers can collocate with each other. No matter the combinations function as a typical Route marker in (37) or a construction of serial verbs in (38), these three markers combine with each other in a restriction. Only *guò* 過 can co-occur with other two. Therefore, *jīng-guò* 經過 and *yuè-guò* 越過 are grammatical but **jīng-yuè* *經越 and **yuè-jīng* *越經 are not. Moreover, there is a fixed order in the combinations of *jīng-guò* 經過 and *yuè-guò* 越過. The restriction is that *jīng* 經 and *yuè* 越 can precede *guò* 過 but cannot be vice versa. That is to say, the makeups of **guò-jīng* *過經 and **guò-yuè* *過越 are ungrammatical.

(37) a. 我越過世界回到這裡

wǒ yuè-guò shìjiè huí dào zhèlǐ

I cross-pass world return arrive here

'I crossed the world and returned to here.'

b.飛機…經過夏威夷到東京

fēijī… jīng-guò xiàwēiyí dào dōngjīng

plane pass-cross Hawaii arrive Tokyo

'The plane went past Hawaii to Tokyo.'

(38) a.當我越過山河，

dāng wǒ yuè-guò shān hé

when I cross-pass mountain river

'When I crossed the mountain and the river…'

b. 他每次都要經過長城

tā měicì dōu yào jīng-guò chángchéng

he every.time all want pass-cross Great.Wall

'He wants to go across the Great Wall every time.'

Considering the different moving contours of each marker, *yuè* 越 functions as a modifier of the meaning of *guò* 過 whose semantic scope is wider with more choices on moving contours. In other words, *yuè* 越 specifies the moving contour of *guò* 過 as 'go over'. According to Li and Thompson (2007), modifiers in Mandarin makeups tend to precede the head they modify. Following this morphological principle, *yuè* 越 precedes the verb *guò* 過 as a modifier. Therefore, *yuè-guò* 越過 is grammatical but **guò-yuè* *過越 is not. On other hand,

there is another semantic attribute that distinguishes these three markers and influences the restriction of collocating with each other-- whether they imply Endpoint. Since *jīng* 經 only reflects the concept of Route by marking a passing point, it should precede the other two markers which also imply Endpoint to follow the spatial sequencing. In our human beings' coginition of a motional path, a moving entity must go past an intermediate point with a specific moving contour (Route) and then finish the moving by reaching a destination (Endpoint). In light of this sequencing, *jīng* 經 should precede *guò* 過/ *yuè* 越 and thus *jīng-guò* 經過 is grammatical but **guò-jīng* *過經 is not. The two principles and semantic attributes also can explain the ungrammaticality of **jīng-yuè* *經越 and**yuè-jīng* *越經. The combination **jīng-yuè* *經越 is against the morphological compounding principle for the specified Route marker *yuè* 越 should precede the underspecified marker *jīng* 經 to follow the morphological compounding principle. However, although the combination**yuè-jīng* *越經 follows the compounding principle, it is against the spatial sequencing principle for *yuè* 越 implies Endpoint and *jīng* 經 introduces the intermediate point. Therefore, these two markers cannot collocate with each other in any order.

The interactions between the semantic differences and the two related principles: the spacial sequencing and Mandarin modifying sequencing account for the combinations formed by these three markers collocating with each other. There is another semantic-to-morphological correlation shown with the combinations of these three markers and verbs, which is illustrated in the following section.

5.2.2 Collocation with Verbs

In the findings, we observe that these three markers can co-occur with a verb to specify a motion event and form a serial verb construction but they seem to combine with different verbs. Based on the verbs found to collocate with *guò* 過 in Zeng(2008) which uses Center of Chinese Linguistic PKU as the database, we examine whether the same verbs can collocate

with the other two markers. We found there are some verbs that cannot combine with *yuè* 越 but can collocate with *jīng* 經 such as *dù* 踱 'pace', *liú* 流 'flow', *lù* 路 'pass' as shown in Group 1 in the table below. There are also some verbs that cannot co-occur with *jīng* 經 but are found to precede *yuè* 越*: dù* 渡 'cross a river', *màn* 漫 'overflow', *shè* 涉' wade', *fān* 翻 'go across', *shǎn* 閃 'dodge', *fú* 拂 'brush', *chōng* 衝 'rush' shown as Group 2. The last group is the verbs that cannot co-occur with *jīng* 經 and *yuè* 越 such as *yā* 壓 'press', *tōng* 通 'lead to', *jǐ* 擠 'squeeze', *yǒng* 湧 'surge', *yuè* 越 'cross', *jīng* 經 'pass' illustrated as Group 3 in the table below.

	Verb	Jīng 經	Yuè 越
Group 1: *V越	*Dù* 踱 'pace'	O	X
	Liú 流 'flow'	O	X
	Lù 路 'pass'	O	X
Group2: *V經	*Dù* 渡 'cross a river'	X	O
	Màn 漫 'overflow'	X	O
	Shè 涉 'wade'	X	O
	Shǎn 閃 'dodge'	X	O
	Fú 拂 'brush'	X	O
	Chōng 衝 'rush'	X	O
Group 3: *V越*V經	*Jīng* 經 'pass'	X	X
	Yuè 越 'cross'	X	X
	Tōng 通 'lead to'	X	X
	Yā 壓 'press'	X	X
	Jǐ 擠 'squeeze'	X	X
	Yǒng 湧 'surge'	X	X

Table 8.The three groups of verbs that cannot combine with *jīng* 經/*yuè* 越

Let us take a look at Group 1 and Group 2 first for they show a clear correlation between semantics and morphology. The verbs in Group 1 have a tendancy to a manner of motion that seldom co-occurs with a moving contour of 'go over'. To be specific, the Figure choosing the way of moving described by the verbs in Group 1 hardly moves in the contour of 'go over'.Therefore these verbs are incompativel with *yuè* 越. On the other hand, the verbs in Group 2 seem to be a motion that the Figure moves past some point and reaches a destination, which is compatible with the meaning of *guò* 過 and *yuè* 越 but not with *jīng* 經. These two groups of verbs illustrate the correlations between semantics and morphology. As for Group 3, the ungrammaticality of *jīng* 經 and *yuè* 越 collocating with *jīng* 經/*yuè* 越, that is , the ungrammatical combinations of **jīng-yuè* *經越 and **yuè-jīng* *越經, is already explained in the previous section. The combinations of **jīng jīng* *經經 and **yuè yuè* *越越 are ungrammatical for their redundancy of repeating. There is a special verb in this group: *tōng* 通 'lead to'. Leading to somewhere requires a concept of Endpoint to delimit the moving contour. Furthermore, we found that when collocating with *guò* 過, it specifies the contour of *guò* 過 as 'going through', such as *tōng-guò rénqún* 通過人群 'go through the crowd'. In other words, *tōng* 通 expresses the act of leading to somewhere in a contour of 'go through', which is incompatible with *jīng* 經 and *yuè* 越. Other verbs in this group such as *yā* 壓 'press', *jǐ* 擠 'squeeze', *yǒng* 湧 'surge', tend to be an act of compression. The concept of compression is incompatible with Route and thus these verbs can only collocate with the most general Route marker, *guò* 過.

After examining the verbs found in Zeng (2008), it seems that *guò* 過 can collocate with most verbs. However, there are some verbs that cannot collocate with all these three makers: *shàng* 上 'ascend', *xià* 下 *'descend'*, *jìn* 進 'enter' *chū* 出 'exit' and *huí* 回 'return'. Accroding to Liu et al. (2012b) and in preparation, these are Endpoint-encoded verbs. The sequences in which Endpoint-encoded verbs preceding Route markers such as **shàng-guò/jīng/yuè* *上過/經/越 are semantically odd since they violate the natural order of

motion progression,which is called Non-regrssional Principle (Liu et al. in preparation). On the other hand, we also cannot have the combinations in which Endpoint-encoded verbs following Route markers such as **guò/jīng/yuè-shàng* *過/經/越上 although such sequences are non-regressional. In marking a Route, *guò* 過, *jīng* 經 and *yuè* 越 specify a landmark as a passing point that is semantically incompatible with verbs that specifies a landmark as an endpoint. The same landmark NP cannot serve two different semantic roles, which may violate the Semantic Compatibility Principle (Liu et al. in preparation).

The collocations of various verbs and Route markers show the correlations between semantics and morphology. With further understanding of Route markers, we know the incompatibility between the different meaning of each verb and the distinct moving contours. Exploring more semantic-to-morphological interactions between the verbs and the markers involves further understanding of the verbs, which could be a potential issue to verify the interface between semantic and morphology.

5.3 Incorporation of Frame-based Hierachical Structure

To further understand the relation between Route and Motion, this study incorporates the analysis into a frame-based hierarchical structure proposed by Liu and Chiang (2008). The framing system is as follows: Archiframe > Primary frame > Basic frame > Microframe. The lower-layered frames are subframes of the higher-layered frames. The higher frame encodes a broader semantic domain that provides background frame information. As Liu and Chiang's illustration, Archiframe is a broad semantic domain defined with a general event schema; Primary frame is a subpart of the schema with a unique set of core frame elements; Basic frame highlights particular fram elements, realizing them in particular constructions, called defining patterns; Microframe is further distinguished according to role-internal specifications of frame elements, such as Collocational Association, Semantic Attribute and Morphological Make-up.The following sections elaborate the structure with a focus on the

frame of Route.

5.3.1 Conceptual Schema of Self-initiated Motion

According to Liu and Chiang (2008), a Conceptual Schema (CS) illustrates the cognitive background of an event with a set of default role participants, that is, the Frame Elements (FEs). The conceptual schema describes a cognitive basis of a certain frame and the frame-to-frame relationship among its subframes. Reviewing the Deictic-Incorporated Proto-Motion Event Conceptual Schema proposed by Liu et al. (2012a) shortened as PMS, several essential semantic components that are crucial to self-initiated motion have been identified as semantic components encoded in various motion verbs. As a cognitive representation of motion, PMS has integrated the verb-internal lexical features in verbs of motion together with the verb-external participant roles co-ocurring with them. As illustrated by Liu et al. (2012a), [Manner], [Route], [Direction], and [Endpoint] are identified with verb-external elements in (39a) as *rìběn* 日本 'Japan' specifying the intermediate point of the path, *dōng* 東 'east' denoting the spatial oritentation of the path, and *měiguó* 美國 'America' describing the final destination of the path. On the other hand, they also can be recognized as verb-internal components as in (39b).滾 'roll', 落 'fall',進 'enter' and 到 'arrive' encode Manner, Route, Direction and Endpoint respectively.

(39)a. 他[飛]$_{\text{Manner}}$ [經日本]$_{\text{Route}}$ [往東]$_{\text{Direction}}$ [到美國]$_{\text{Endpoint}}$ (Liu et al. 2012a)

tā fēi jīng rìběn wǎng dōng dào měigu

he fly through Japan toward east arrive America

'He flew east through Japan to America.'

b. 球 [滾]$_{Manner}$[落]$_{Route}$ [進]$_{direction}$[到]$_{Endpoint}$ 洞裡 (Liu et al. 2012a)

qiú gǔn luò jìn dào dònglǐ

ball roll fall enter arrive hole

'The ball rolled-fell into the hole.'

Along the vein, external participants *rìběn* 日本 'Japan', *dōng* 東 'east', and *měiguó* 美國 'America' can be recognized as frame elements specifying the self-initiated motion. Integrating verb-internal and verb-external perspectives, we therefore suggests the self-initiated motion is plotted with frame elements such as 1) Figure, 2) Ground, 3) Route NP, 4) Directional NP, 5) Locative NP, and 6) Deictic. The conceptual schema of self-initiate motion can be displayed as below:

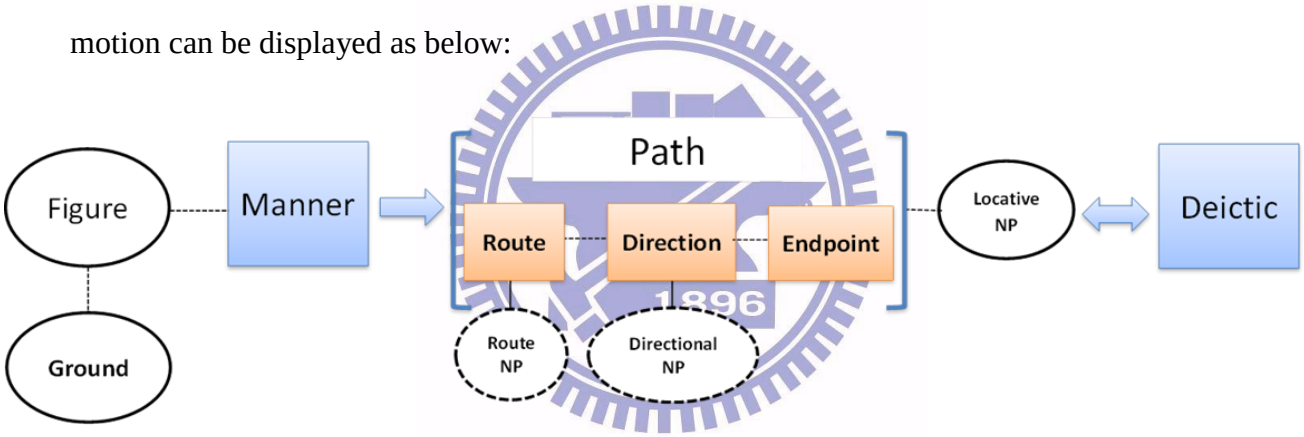


Figure 13: Conceptual Schema of Self-initiated Motion

In the conceptual schema, a moving entity (Figure) adopts a particicular way of movement (Manner). With a certain manner of motion, the moving entity decides on the motional contour in which it may pass an immediate point (Route NP) toward a location (Directional NP) and reach its final destination (Locative NP). Also the moving entity may lauch a movement without a specific motional contour taking place in a setting (Ground). The speaker-oriented perspective in describing a motion (Deictic) is independently specified in schematizing the self-initiated motion. Incorpoated into Motion, Deictic serves as an optional marker indicating the spatial orientation in relation to the deictic center, the Speaker. Moreover, the notion of Deictic is commonly used to signify the relative position of the

Speaker to Locative NP. In this sense, Deictic also helps to locate a Speaker-centered endpoint.

5.3.2 The Hierarchical Structure of the Frame

Following the assumption that meanings of verbs can only be defined in semantic frames with profiled lexical elements (Fillmore and Atkins 1992, Goldberg 2005), Mandarin motion sequences are analyzed and categorized by a frame-based hierarchical taxonomy proposed by Liu and Chiang (2008) with a multi-layed structured classification of semantic frames: Archiframe > Primary frame > Basic frame > Microframe. Frames in the higher level denote a broader scope of certain semantic domain with background information. Frames in the lower level inherit from upper frames and provide frame-specific description with forgrounded frame elements which are realized in particular syntactic patterns, i.e. defining patterns. In this section, to further understand the relation between Route and Motion, we will introduce each frame under the hierarchical structures of self-initiated Motion with a conceptual schema, definitions, frame elements, defining patterns, and representative lemmas. Section 5.3.2.1 introduces the Archiframe of Self-initiated Motion. Section 5.3.2.2 presents primary frames with a focus on Path primary frame. Section 5.3.2.3 will illustrate the basic frames under Path primary frames with a focus on Route frame.

5.3.2.1 Layer 1: Archiframe of Self-initiated Motion

According to Liu and Chiang (2008), Archiframe (AF) is the highest frame in the hierarchical framing system. It is a broadest semantic domain of a general event, in this case, the Self-initiated Motion. The archiframe defines an overarching conceptual schema as a semantic prerequisite for illustrating subframes that inherit. The information regarding the Archiframe of Self-initiated Motion is described below:

Definition: A conceptually moving entitiy (Figure) moves by adopting a particular way of movement (Manner) on a stationary site (Ground) or a certain course of motional path, passing an intermediate landmark (Route NP) toward a spatial orientation (Directional NP) to arrive at a final destination (Locative NP) in relation to an optional marking of speaker-oriented center (Deictic).

Representitive lemma: *fēi* 飛 'fly', *zǒu* 走 'walk', *guò* 過 'pass', *yuè* 越 'go over', *xiàng* 向 'face', *wǎng* 往 'face', *sheng* 升 'ascend', *jiàng* 降 'descend', *shàng* 上 'go up', *xià* 下 'go down', *jìn* 進 'enter', *huí* 回 'return', *jiàng-luò* 降落 'descend to fall', *luò-jiàng* 落降 'fall to descend', *shàng-sheng* 上升 'go up to ascend', *shàng-sheng* 升上 'ascend to go up', *tuì-huí* 退回 'recede to return', *huí-tuì* 回退 'return to recede.'

Frame Elements: Figure, Ground, Route NP, Directional NP, Locative NP, Deictic

Conceptual Schema:

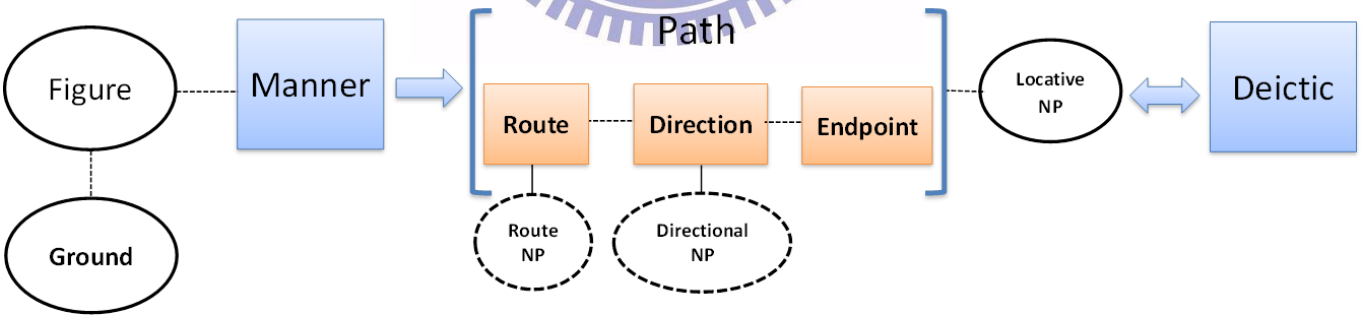


Figure 14. Conceptual Schema of Self-initiated Motion Archiframe

Defining Patterns:

a. Figure [NP] < * < Locative-NP < Deictic [VP]

下一次[我/Figure]也要[飛/Self-initiated Motion][日本/Locative-NP][去/Deictic]看他們!

xiàyícì wǒ yě yào fēi rìběn qù kàn tāmén

next.time I too want fly Japan go see they

'I want to fly to Japan to see them next time!' (Google 2013/05/30)

b. Figure [NP] < * < {到} + Locative-NP< Deictic [VP]

而不是讓[小孩/Figure][進/Self-initiated Motion]到[教室/Locative-NP][來/Deictic]

ér búshì ràng xiǎhái jìn dào jiàoshì lái

and NEG let children enter arrive classroom come

'And not letchildren enter the classroom.' (Google 2013/05/30)

c. Figure [NP] <*<Deictic [VP] < Locative-NP

[他奶奶/Figure]都沒有[上/Self-initiated Motion][來/Deicitc][二樓/Locative-NP]哄過，

tā nǎinai dōu méiyǒu shàng lái èrlóu hǒng guò

His grandmom all NEG ascend come second.floor coax ASP

'His grandmom never comes to the second floor to coax him.' (Google 2013/05/30)

5.3.2.2 Layer 2: Primary frame

As described by Liu and Chiang (2008), Primary frames (PFs) are subparts under the Archiframe with a unique set of core frame elements. Primary frames are distinguished from one another by different profiled or highlighted frame elements and syntactic representation. As illustrated in the conceptual schema in the previous section, self-initiated motion verbs include three subparts which could be divided by their different core frame elements: Manner, Path and Deictic. The Manner frame specifies the various ways of movement. The Path frame

describes the course of motion with three subcategories: Route as specifying unique motional contour, Direction as specifying spatial orientation of the movement, and Endpoint as specifying the arrival of final destination. The last one is the Deictic frame depicting the speaker-oriented relation in motion as toward or away from the speaker. The three primary frames under the Archiframe of Self-initiated Motion can be summarized as follows.

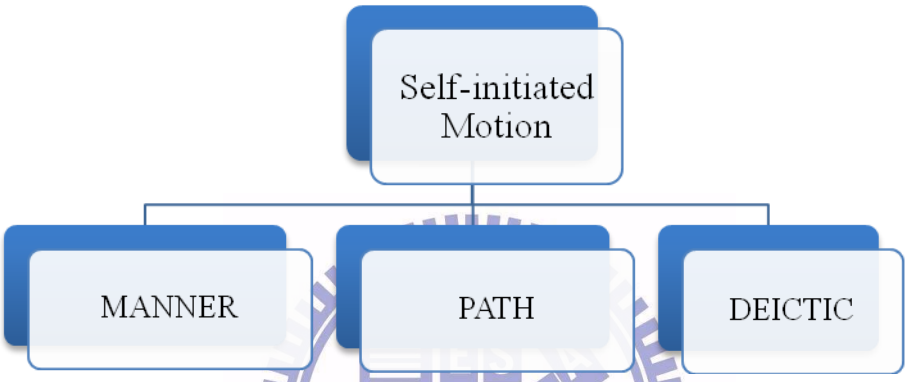


Figure 15: Primary Frames under Self-initiated Motion Archiframe

Since the issue in this study involves the Path primary frame, only the frame under the Path primary frame will be provided.

5.3.2.2.1 Path Primary Frame

Definition: It is a motional course in which the moving entity (Figure) moves by passing an intermediate landmark (Route NP) toward a spatial orientation (Directional NP) to reach a final destination (Locative NP).

Representative lemma: *guò* 過 'move past', *yuè* 越 'go over', *xiàng* 向 'face', *wǎng* 往 'face', *sheng* 升 'ascend', *jiàng* 降 'descend', *shàng* 上 'go up', *xià* 下 'go down', *jìn* 進 'enter', *huí* 回 'return', *jiàng-luò* 降落 'descend to fall', *luò-jiàng* 落降 'fall to descend', *shàng-sheng* 上升 'go up to ascend', *shàng-sheng* 升上 'ascend to go

up', *tuì-huí* 退回 'recede to return', *huí-tuì* 回退 'return to recede.'

Core Frame Elements: Figure, Route NP, Directional NP, Locative NP

Conceptual Schema:

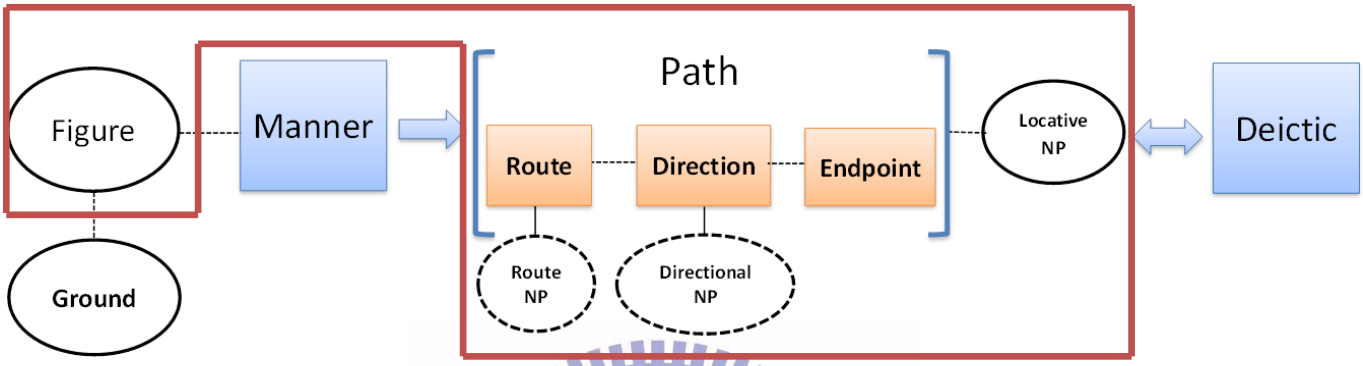


Figure 16: Conceptual Schema of Path Primary Frame

Defining Patterns:

a. Figure [NP] < *

[飛機/Figure][降落/Path]了

fēijī jiàng-luò le

plane descend-fall ASP

'The plane has landed on.' (Google 2013/02/05)

b. Figure [NP] < (Manner [VP]) <* < Locative -NP < (Deictic [VP])

[他/Figure]快步[走/Manner][下/Path][樓/Locative-NP][來/Deictic]

tā kuài bù zǒu xià lóu lái

He quick step walk descend floor come

'He walked down the floors quickly.' (Google 2013/05/30)

c. Figure [NP] < (Manner [VP]) <* < Route NP < {到} +Locative-NP < (Deictic [VP])

[這裡的燕子/Figure]會[飛/Manner][過/Path] [大海/Route NP]到[南洋/Locative-NP][去/Deictic]過冬

zhèlǐ de yànzi huì fēi guò dàhǎi dào nányang qù guò dōng

here de swallow can fly pass ocean arrive Southerneast.ocean go spend winter

'These swallow will spend their winder at the Southern East Pacific Ocean.'

d. Figure [NP] < (Manner [VP]) < * < Directional -NP < {到} +Locative –NP<(Deictic [VP])

這次因為[颱風/Figure][往/Path][北/Directional-NP]到[日本/Locative-NP][去/Deictic]了，

zhè cì yīnwèi táifēng wǎng běi dào rìběn qù le

this time because typhoon move.toward north arrive Japna go ASP

'This time because the typhoon moved toward the north and went to Japan….'

e. Figure [NP] < (Manner [VP]) < *<Deictic [VP] <Locative –NP

[他奶奶/Figure]都沒有[上/Self-initiated Motion][來/Deicitc][二樓/Locative-NP]哄過，

tā nǎinai dōu méiyǒu shàng lái èrlóu hǒng guò

His grandmom all NEG ascend come second.floor coax ASP

'His grandmom never comes to the second floor to coax him.' (Google 2013/05/30)

f. Figure [NP] < (Manner [VP]) < *<Route-NP<Deictic [VP] <Locative –NP

只要[你/Figure]能[飛/Manner][過/Path][大海/Route-NP][來/Deictic][這裡/Locative-NP]找我，

zhǐyào nǐ néng fēi guò dàhǎi lái zhèlǐ zhǎo wǒ

as.long.as you can fly cross sea come here find me

'As long as you can fly over the sea and come here to find me…' (Google 2013/05/30)

g. Figure [NP] < (Manner [VP]) < *<Directional-NP<Deictic [VP] <Locative –NP

[颱風/Figure][往/Path][北/Directioanl-NP]'[去/Deictic][日本/Locative-NP]

táifēng wǎng běi qù rìběn

Typhoon move.toward north go Japan

'The typhoon moved toward the north and went to Japan.' (Google 2013/05/30)

5.3.2.3 Layer 3: Basic frame

Basic frames are set of semantically restricted frames under primary frame, denoting a narrower scope of meaning. According to Liu and Chiang (2008), basic frames are "semantically more informative, distributionally more frequent and common, and are associated with foregrounded or backgrounded frame elements within the set of primary-selected elements." (Liu and Chiang 2008:10) To be specific, basic frames are defined by a set of highlighted frame elements inheriting from primary frames as well as distinctic syntactic behaviors. To distinguish one from another, basic frames have their own defining patterns that foreground certain frame elements.

Liu et al. (2012a) decomposed the notion of Path into three subparts: Route, Direction, and Endpoint. And these essential components can combine with each other as several semantic portions: [Route+Direction], [Direction+Endpoint], [Route+Direction+Endpoint]. Along the vein, verbs of motion may lexicalize different internal components as *fēi* 飛 'fly' with [Manner]. As Liu et al. (2012b) noted, motion verbs will have unique lexicalization patterns according to how they are linearized into motion sequences. These motion sequences encode three possible portions of the components as *jiàng-luò* 降落 'descend to fall' with [Route+Direction], *shàng-sheng* 上升'go up to ascend' with [Direction], and *luò-xià* 落下 'fall to go down' with [Route + Direction + Endpoint].The uniqueness of this portion [Direction] refers to the lexicalization pattern by motion sequences, instead of the morphological makeups of separate morphemes It is noted that the semantic portions of

[Route + Direction] and [Route + Direction + Endpoint] can be lexicalized into monomorphemic verbs of motion as well as motion sequences.

We have recognized those semantically related but separable portions in terms of Frame Semantics. They can be realized as seven basic frames under Path primary frames as shown below:

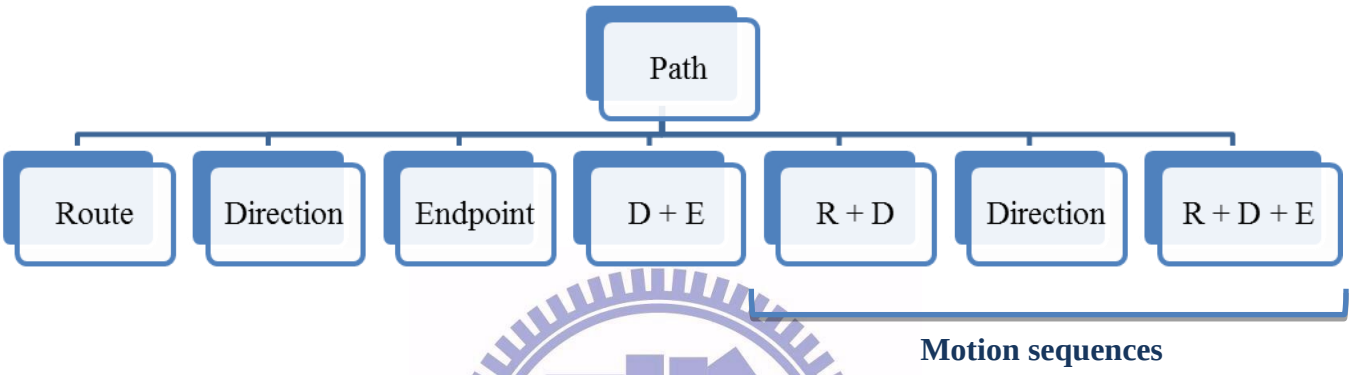


Figure 17: Basic Frames under Path Primary Frames

Since the issue in this study focuses on the Route basic frame, only the information of Route frame is provided in the following section.

5.3.2.3.1 Layer 3: Route Basic Frame

Definition: A trajectory or a moving contour in which the Figure moves past an intermediate landmark (Route-NP).

Representative Lemma: *guò* 過 'cross/pass', *jīng* 經 'pass' *yuè* 越 'cross',

Core Frame Elements: Figure, Route-NP, Locative-NP

Defining Patterns:

a. Figure [NP] < (Manner [VP]) < * < Route-NP< {到} +Locative [NP] < (Deictic [VP])

[這裡的燕子/Figure]會[飛/Manner][過/Route][大海/Route-NP][到/Endpoint]

[南洋/Locative-NP][去/Deicitc]過冬

zhèlǐ de yànzi huì fēi guò dàhǎi dào nányang qù guò dōng

here de swallow can fly pass ocean arrive Southerneast.ocean go spend winter

'These swallow will spend their winder at the Southern East Pacific Ocean.'

(Google 2013/05/30)

b. Figure [NP] < (Manner [VP]) < * <Route-NP< Deictic [VP] <Locative [NP]

只要[你/Figure]能[飛/Manner][過/Path][大海/Route-NP][來/Deictic][這裡/Locative-NP]

找我，

zhǐyào nǐ néng fēi guò dàhǎi lái zhèlǐ zhǎo wǒ

as.long.as you can fly cross sea come here find me

'As long as you can fly over the sea and come here to find me…' (Google 2013/05/30)

5.3.3 Brief Summary

The multi-layered hierachial structure of Self-motion illustrates the relation between Route and Motion. In a self-motion event, Route is under the frame of Path, which is a subpart of the whole motion event. In other words, Route is a subcomponent of Path, which is a required element in a self-motion event.

Chapter 6

Conclusion

6.1 Conclusion

This paper specifies the path in motion events proposed by Talmy (2000) by investigating Route decomposed from the notion of Path in Liu et al. (2012a). To further understand how Route is realized in Mandarin,this study analyzes the three commonly-used Route markers, *guò* 過, *jīng* 經 and *yuè* 越 both syntactically an semanctically. Moreover, the study also illustrates the relation between Route and Motion by incorporating the analysis into a hierachial texonomy, elaborating what role Route plays in motion events.

The three commonly-used Route markers, *guò* 過, *jīng* 經 and *yuè* 越 show their differences both semanctically and syntactically. Considering their grammatical functions, these three markers have distinct lecical status on verbality. *Guò* 過 is the most verbal while *yuè* 越 is less. *Jīng* 經 is the least verbal and behaves like a grammatical marker. On semantics, there are two semantic attributes that differentiate these three markers. These three markers describe different moving contours and may or may not be lexically capable of encoding Endpoint. G*uò* 過 introduces all possible contours and is lexically capable of encoding Endpoint. It can finish a motion event on its own while it cannot mark the exact desitnation. However, *jīng* 經 only can serve as a Route marker, marking the passing point without specifying a particular contour. It requires an Endpoint verb/ marker to finish a motion event. Last but not the least, as a specified Route marker, *yuè* 越 expresses the particular contour ‘go over. It also can finish a motion event on its own without marking an exact destination. The study also provides the image schemas to illustrate the semantic distinction of each marker clearly.

The disntiguisments of these three markers lead to somesemantic-to-morphological

correlations shown in the ungrammaticality when these three markers combine with each other：*guò-jīng *過經，*guò-yuè *過越，*jīng-yuè *經越，*yuè-jīng *越經. The interactions between the semantic differences and two related principles: the spacial sequencing and Mandarin modifying sequencing account for the ungrammaticality. Moreover, the combinations of verbs and each marker also illustrate some correlations between morphology and semantics.

To futher understand the concept of Route, this study illustrates the relation between Route and Motion in a frame-based and multi-layered hierachial structure.The higher layer encodes a broader semantic domain that provides background frame information. The lower layer inherits the information and profiles different parts of it. In the framing system of Self-motion, the first-layered structure stands for the general motion event with a conceptual schema, which illustrates the elements required in a motion event. The second-layered structure is made up of three parts: Manner, Path and Deicic, each of which profiles different elements in the conceptual schema. With a focus on Path, this study suggests that Path is a motional course in which the moving entity (Figure) moves by passing an intermediate landmark (Route NP) toward a spatial orientation (Directional NP) to reach a final destination (Locative NP). The third-layered structure is composed of seven basic frames profiling different elements which are realized in different syntactic patterns. Route is one of the basic frames, referring to a trajectory or a moving contour in which the Figure moves past an intermediate landmark (Route-NP). In other words, in a motion event, Route is a subcomponent of Path, which is a required element in a self-motion event.

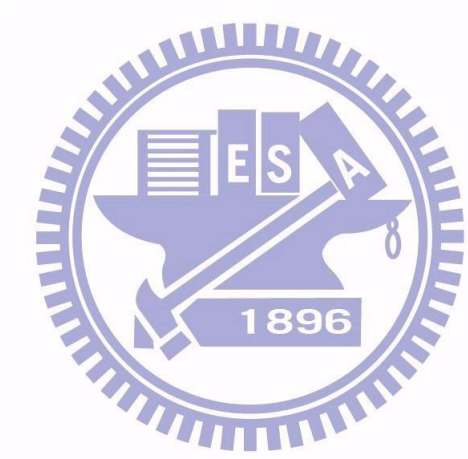
6.2 Further Research

Although this study strives to take all the perspectives into consideration, there are some potential issues await to be explored in the future.

First, this study analyzes the Route markers only in their use in motion events. As we

know, motion is commonly used to describe other metaphorical uses such as time-changing. These three Route markers may also be commonly-used in such metaphors and their differences on such use are worthy of being discussed.

Moreover, there are various verbs co-occurring with these three Route markers. The correlations between the verbs and these markers are another potential issue requiring some further understanding of the verbs and verifying the interface between these two facets.



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Google Search http://www.google.com.tw/